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ORIGINAL AND SELECTED ARTICLES.

TYPHOID FEVER.

BY J. H. EGAN, M.D., OF PULASKI, TENN.

Until the present century great confusion existed as to typhus and typhoid fevers. Both diseases were described under the same name and considered identical. Typhus fever was unknown on the continent of Europe and America, and the description given of that fever appertained to typhoid. Typhus was the endemic fever of Great Britain, and occasionally there were outbreaks of typhoid. When the immense tide of emigration flowed into the United States it brought along with it the typhus of the mother country. Ship fever, which has been most graphically described, is typhus. The non-identity of typhus and typhoid was repeatedly asserted from 1830 to 1840; but to Sir William Jenner is due the credit of recognizing the specific differences between the two diseases. Since the writer's first visit to the United States a large number of physicians believed in the identity of the two diseases. The profession in the United States are under obligations to Dr. William Bartlett for tabulating the differences in symptoms between the two fevers; and after perusing his work no candid person could fail to admit that they are separate and distinct. There could be no excuse for a physician educated in Great Britain in late years failing to

recognize the non-identity of these fevers, as he had an opportunity of seeing hundreds of both; but it was otherwise in Europe and the United States, as typhus was a rare disease. Dr. Geo. B. Wood gave the name of enteric fever to typhoid, which was an excellent name, and pointed to its invariable pathological lesion. Typhoid had previously been given to it, and it is difficult to change a name which has come into common use. A worse name could not well have been given, as it gives rise to constant confusion. We have typhoid fever and the typhoid state, which is incidental to many diseases, and when attached to the name of another disease, as typho-malarial fever or typhoid pneumonia, gives rise to endless confusion. In the seventeenth century we find descriptions of cases and autopsies showing that typhoid fever was widely spread in Europe; and in the eighteenth century the existence of the disease is beyond doubt. The writings of Willis Sydenham, Hoffman and Morgagni attest the matter. Typhoid fever is infectious to a slight degree; but this infection does not extend beyond a few feet from the patient. Defective sewerage, contaminated milk and water containing the disease germs, are the chief causes of typhoid fever. The fever was unknown in Queensland, Australia, until 1864, when the American ship "Flying Cloud" carried it there in the water which it had on board. Liebermeister, in his article on typhoid fever in Ziemssen Clyclopædia, enounces the doctrine that the poison of typhoid fever does not originate in decomposing substances, but finds in them favorable ground for growth and multiplication. He says "there are multitudes of houses in which the effluvia of the privies can be smelt through all the rooms, and in which the inhabitants are constantly inhaling sewer gases; and neither the temporary nor permanent residents are attacked with typhoid fever. Cities with defective sewerage are not by any means always visited with typhoid fever." Dr. Budd established the doctrine that the poison of typhoid fever is propagated continuously. It follows, then, that if a single case be introduced into a community, it may give rise to single cases or epidemics. The transporters of the poison is the excrement, and it is the washing of this into the wells which contaminates the water and produces the disease. Every case of typhoid fever can be traced to a specific source, if energetically sought for. The poison of typhoid fever retains its vitality for a longer time than that of any other disease with which we are acquainted.

The period of incubation is difficult to determine, but is supposed to be from fourteen days and upwards. The longest known period is twenty-eight days. The average is twenty-one days. The mode in which the poison gains entrance to the system is either by the air we breathe or the water we drink. This is the reason why the washer-

women, who wash the bed-linen soiled by the dejections of the patients, are more frequently attacked than the other attendants.

The primary local lesions of typhoid fever, and one which is always present in every case of the disease, and is pathognomonic of it, is ulceration of Peyer's patches and the solitary glands, and also the changes in the mesenteric glands and in the spleen. There are other lesions which vary in different cases, and are the results of the general disease; such are the degeneration of the liver, kidney and heart; but these depend upon the intensity and duration of the general diseases and the severe and long-continued fever.

Typhoid fever develops very slowly, so much so that patients cannot tell when they began to get sick. It is usually from four to ten days before it is necessary to take to the bed. This is characteristic of the disease. A slight bronchitis accompanies typhoid fever, together with epistaxis, and this generally occurs in the early part of the fever. Deafness, either slight or almost complete, frequently occurs. The bowels are loose and dejections of a yellowish color, and in connection therewith is tenderness of the illiac region on the right side. The abdomen is tympanitic, owing to the accumulation of gas in the intestines.

Griesenger says: "The fever in a measure controls the situation." The fever lasts, as a rule, from three to four weeks. It is a self-limited disease, but these limits are often very wide. Fourteen days is the shortest duration, and there have been cases to last ninety days. The general duration, however, is four weeks. In the first week there is a gradual and steady increase of the fever; in the second week the fever is continuous; in the third week the fever begins to be remittent; but in the exascerbations the highest temperature is reached; in the fourth week the fever becomes intermittent, and the exascerbations become lower.

The disturbances of the nervous system depend upon the intensity of the fever. There may be general malaise, restlessness, headache and unquiet sleep; or there may be slight disturbance of the intellect; or there may be a low muttering delerium, a drowsy condition from which the patient can be temporarily aroused; or the delerium may be violent; or there may be constant loss of consciousness from which the patient cannot be aroused. If the case be severe, there will be subsultus tendinum, tinnitus aurium and extreme nervousness.

On the seventh day of the disease there will generally be observed a slight roseolar eruption, which disappears on pressure. This is not always present.

Pneumonia, pleurisy, erysipelas and organic disease of the heart frequently are complications of typhoid fever.

Relapses are not uncommon in typhoid fever. When they do occur

there is a sudden bound up in the temperature which does not attain its height gradually, as in the first attack, but remains high for a short time, and then we have the morning and evening changes. The morning remissions and evening exascerbations are much more marked in the relapse than in the original attack. The eruption makes its appearance with the first symptoms of the relapse, and continues until the fever disappears. The spleen never decreases in size while the fever remains, and in a relapse swells up again.

The treatment of typhoid fever has undergone a great change in the United States since the writer first visited the New York hospitals. Dr. Alonzo Clark was the first to introduce the Edinburgh or conservative plan of treatment in Bellevue Hospital. Fires were lighted in the wards to produce a current of air; the windows were thrown open; water was given ad libitum, and the patients were kept as cool as possible. To use his own expression: "Under the old treatment the patients went out in coffins, and under the new on their own limbs." I have seen three hundred patients in the Edinburgh Infirmary, not one of whom got a teaspoonful of medicine—only food and stimulants. This was carrying matters to the other extreme, as I am certain that treatment directed to the prominent symptoms would have been beneficial.

The prominent symptom is the fever. The temperature must never be allowed to exceed 103° Fah.; as soon as this point is reached measures must be taken to reduce it. This can be done in two ways, either by cold water or by medicine. I prefer the former; although I am free to confess that I have seen the most marvellous results from the use of large doses of quinine. In the practice of Dr. Compton, of Evansville, Indiana, I saw exhibited two doses of twenty grains, one hour apart, with the result of bringing the temperature down at once two degrees, and keeping it there. Water can be employed in the cold bath—cold pack and sponging; the latter I prefer, when it will accomplish the end, but this it will not always do. The whole body may be sponged with water at a temperature which is agreeable to the patient, and a small portion of the surface be denuded and sponged until the application has been made over the whole person. There is no danger in the cold pack sheet, provided all below the knees be left uncovered. There is not much benefit to be derived from it, and the good effects are not derived from the cold. The cold bath is a troublesome method, and frequently impracticable to give in a private house, and is liable to produce some nervous shock, and on this account is not often used. The same results can be obtained by simply wrapping the patient in a wet sheet and sprinkling with cold water. Personally, I use sponging with cold water, and if this be ineffectual, then I prefer the "Kibbee"

water bed. This was used in Memphis in the epidemic of yellow fever in 1873, and subsequently in 1878 at New Orleans, where the inventor lost his life by yellow fever. Dr. T. G. Thomas has used it to reduce the temperature in cases of ovariotomy, and speaks of it highly. Whatever be the plan adopted, an effort must be made to reduce the temperature to 100° Fah.

The amount of fluid required for the healthy performance of function is 120 ounces per diem. We may safely say that not less than two pints ought to be given daily to the patient. If the intellect be clear, the desires of the patient will be the best indication for the amount of the fluid, and the frequency it ought to be given. When the intellect is clouded and the mouth dry, a tablespoonful ought to be given frequently. It will be found that on presentation of spoon to the lips the patients will mechanically swallow what is offered.

I have long been in the habit of administering a febrifuge which, if it does no good, will certainly do no harm. In some cases it seemed to be advantageous. I use sulphurous acid, largely diluted with water, three drachms to a pint of water; in place of two ounces of water, the same amount of syrup can be added.

To guard against the gravitation of the blood into the posterior aspect of the lungs, which is one cause of the œdema and pneumonia complicating this fever, it is a good plan to change the position of the patient and not permit him to lie on his back all the time. It will also prevent the formation of bed-sores, which adds to the nervousness of the patient and drains his strength.

Should the discharge from the bowels consist of small semi-solid stools, it ought to be disregarded. Nothing is so detrimental to a patient as over-medication. If, however, the stools be watery and large, showing follicular intestinal catarrh, opium and astringents must be used. Nitrate of silver is a very popular astringent with some. If the bowels be constipated, no cathartic is to be exhibited, but minute doses of belladonna, which will induce an operation.

For the tympanites, turpentine, in the form of an emulsion, is the best remedy. The prescription which I administer is:

℞ Ol. terebinthæ.
Liq. potassæ, a.a.....ʒ ii.
Mucil acaciæ.....ʒ iv.
Syrup papav alb.:
Syrup floris aurantii, a.a.....ʒ i.
Aquæ camphoræ, a.d.....ʒ viii.

M. Sig.: A tablespoonful every four hours.

If the tympanites be excessive and not mitigated by the above, it will be necessary to pass a rubber tube up intestine and allow the gas to escape.

For the nervousness, if excessive, we have found nothing to equal fl. ex. lupulin in small doses, or Hosford's acid phosphate.

In reference to diet, we are opposed to solid food during the continuance of the fever, and for sometime thereafter. I know of nothing which has given me so much satisfaction as a milk diet, and to this may be added, when there is failure of the vital powers, sanguis bonvinus exsicatus. In the third week it often becomes necessary to administer a stimulant. I never give whisky—simply Hungarian wine or the finest French brandy.

Typhoid fever cannot be cured by medicine. In a large proportion of cases nothing is requisite but rest in bed, quietude, fresh air, pure water and a regulated diet. When medicaments are given to hold special symptoms in check, it is better at once to discontinue them as soon as the indication has been met.

TIC DOULOUREUX OF TWELVE MONTHS STANDING CURED BY RESECTION OF THE INFRA-ORBITAL NERVE AND ITS BRANCHES.

BY R. S. JENKINS, M.D., OF GEORGIA.

Francis Grant, colored, aged fifty-two years, was attacked with inflammatory neuralgia of the left facial nerve, August 28th, 1879. Gave sulph. quinine and sulph. morphia, local blisters, warm poultices, without any amelioration of symptoms except to partially subdue the general inflammation. The neuroses ceased to be general and concentrated itself in the infraorbital and its branches.

August 30th. Was attacked with spasms of the muscles supplied by this nerve and its branches, coming on regularly, lasting from one to three minutes, with from five to eight minutes intermission, and continuing day and night up to the time of the operation.

In a short time after these attacks commenced the patient began to lose her appetite, subsequently becoming very much emaciated; but, under the use of cod-liver oil and iron, the appetite returned, and she gained some flesh, retaining both up to the time of the operation. The neuralgic attacks continued, notwithstanding she had taken ext. of belladonna, quinine, bromide of potassium and various other nervines, without lessening the duration, or increasing the length of time between the attacks.

The spasms could be produced by slight pressure on the nerve, or where the canine tooth should have been, even though an attack had

subsided. She had all the teeth extracted from that side, supposing them to be partially the cause of the trouble, without any improvement whatever; also thinking all the time, as she expressed it, that she had been "tricked" by some one of her enemies, and continued to believe thus up to the time of the resection.

August 10th, 1880. Assisted by Drs. Hudson, Boozer and Jones, anæsthetized the patient and performed neurotomy, by making an incision about one and a half inches in length down to the nerve, beginning at the superior portion of the ala of the nose, extending towards the corner of the mouth, dividing the main trunk of the nerve at its exit from the foramen, tracing it for one inch with five branches, and excised them, all of which were enlarged. There was considerable thickening of the mucous membrane of the upper lip, the cheek and conjunctiva of the lower lid of that side of the face, which had subsided to some extent since the operation.

The wound healed by first intention. The patient has taken since half ounce of mur. tinct. iron and five drachms of bromide of potassium.

For several days after the operation, the patient complained of a tingling sensation at the region of the infraorbital foramen, which has now ceased, and up to this time there has been no recurrence of the neuralgic spasm, and the patient is delighted with my having "cut the 'trick' out."

SOME OF THE THERAPEUTIC EFFECTS OF HYDROCHLORATE OF AMMONIA.

BY THOMAS S. MITCHELL, M.D., OF GEORGIA.

Case 1. I was called, March 28th, 1877, to see Mrs. S.; found her suffering very much every catamenial period with severe "dragging down" pains in the back and hips; also from hemorrhoids. I have since operated for hemorrhoids, using the knife, with perfect success. The flow very small in quantity and in clots. She had borne two healthy children, the youngest eight years old. She has ever been a stout, healthy woman. I have known her from her early girlhood, attended her in the two confinements, which were natural and easy; was then suffering from indigestion, constipation, headache, etc.

I explained to her the trouble, and told her if she could bear more children she would get well again. She was willing to do anything to regain her lost health. I prescribed a digestive tonic with powder rhei for the constipation, and the muriate of ammonia in 10-grs. doses

three times a day in water. Continued this line of treatment one month. She became pregnant; health restored almost entirely.

In April, 1878, she gave birth to a large healthy female child, and, strange to say, almost without a labor pain. She got up in the morning, got breakfast feeling unusually well. After attending to all her domestic duties, she sat down and said: "I think you had better send for Dr. M., I am in labor;" and in ten minutes more she gave birth to the child, sitting in the chair. I arrived in about one hour; found her quiet and without pain; delivered the placenta, and soon she was up at work without having a single pain or ache.

Case. 2. Was called to see Mrs. D.; found the symptoms and trouble nearly the same as Mrs. S.; her youngest child seven years old: had had two children.

I gave nearly the same treatment as I gave Mrs. S., and in a short time she became pregnant, and aborted at three months, with an alarming hemorrhage which was easy of control with fluid extract ergot, etc. Afterwards the ammonia treatment was continued. She became pregnant again, and with the constant use of the fluid ext. viburnum or cramp bark she went to full term and gave birth to a healthy living child.

A CASE IN PRACTICE.

BY J. HENDREE, M.D., OF ALA.

A few weeks since I was called to see a negro child one year old, which had been affected with spasms, not very violent, during three days. As I could find no indications of malarial fever I felt satisfied that some accident was the cause of the symptoms. Upon questioning the mother very closely she recalled that a week previous to my visit the child laid upon a blanket in the garden, grasped at a large rooster passing near, and the fowl struck its spur into the scalp. There was considerable outcry at the time, but the wound seemed to have healed and the mother had almost forgotten the circumstance. I then examined the scalp and found a tender spot and minute fistulous openings over the lambdoid suture on the right side, quite near the fontanelle. Enlarging this somewhat with a lancet gave egress to a considerable quantity of pus and bloody serum, which was increased by placing that part of the head in a dependent position. I directed this position to be kept as far as practicable. Relief of spasmodic condition was only temporay, and death insued in forty-eight hours. This was really a case of death from the spur of a cock.

PILOCARPIN IN THE TREATMENT OF MALARIAL FEVER.

* * The salts of quinia are considered specific in malarial affections, and their efficacy is beyond question, but in many cases they do not act promptly enough. What is needed is an agency that will antagonize the essential conditions of a chill at once; which, given during a chill, will cut it short, and which, given just as a chill is threatening, will prevent its occurrence. That the profession has felt the want of such an agent is well-attested by the long array of measures which have been proposed for the purpose. Sinapisms all over the body, the application of tourniquets to the limbs, cups (wet and dry) to the spine, the full administration of alcohol, narcotic doses of opium, and drachm-doses of chloroform internally, are some of them. These methods either have proved so uncertain, or involve so much discomfort, that at the present day treatment of the paroxysm is nearly always merely palliative, being simply an attempt to make the patient as comfortable as possible while he is passing through the different stages.

The essential conditions of a chill are a small, hard pulse, peripheral anæmia, and convulsive muscular contractions. Pilocarpin relaxes arterial tension, causes a determination of blood to the surface, and in the progress of the diaphoresis induced by it brings about muscular relaxation. It is easy to see how pilocarpin, sending the blood to the surface and causing diaphoresis within two or three minutes from the time of its hypodermic administration, can quickly dispel the blue, shrunken appearance of the skin and cold, creeping sensations which are about to usher in a chill; just as nitrate of amyl, dilating the cerebral vessels, prevents the epileptic seizure which their spasmodic contraction is on the point of causing.

To subject this reasoning to a clinical test, six cases of malarial intermittent fever were selected. Each patient was carefully watched at the time when his paroxysm was due, and two or three minutes after the chill had fairly begun gr. 1-5th of the muriate of pilocarpin was administered hypodermically. The patient's temperature was then taken every thirty minutes for the next four or five hours. The results were as follows: 1. In all but one case the chill stopped within two or three minutes after the pilocarpin was administered; and the paroxysms aborted, terminating in the sweat caused by the medicine—no hot stage occurring. In the remaining case, the patient was a very large man, and the dose administered did not produce marked diaphoresis; the chill was not interrupted, although its severity was diminished, and the pains in the back and loins disappeared. A hot stage occurred, but was shorter and less intense than that of the preceding paroxysm. Perhaps a more profuse diaphoresis might have been successful in this case, as it was in the others. With this idea it was proposed, in case another paroxysm occurred, to give a larger dose of pilocarpin; unfortunately for the settlement of this question, if not for himself, the patient recovered without having another chill. In one of these cases quinine also was given; in the others pilocarpin was the only remedy. 2. In all the cases recovery followed the administration of a single dose of pilocarpin; in no instance did another chill occur. In a seventh case small doses of quinine (five grains three times a day) were pre-

scribed; a chill, threatening to develop, was anticipated and prevented with pilocarpin. Convalescence was established without the occurrence of another paroxysm.

From these cases it seems fair to conclude: 1. That the muriate of pilocarpin, administered hypodermically, will promptly cut short the chill of malarial intermittent fever. 2. That in a large proportion of cases so treated the paroxysm aborts, terminating in the sweat caused by the pilocarpin, there being no hot stage. 3. That such abortion of a paroxysm is in itself sufficient to effect a cure in many cases. 4. That such abortion of a paroxysm is a valuabie adjuvant to treatment with quinine during the intervals. 5. That a dose of pilocarpin sufficient to produce this effect acts gently, without causing exhausting diaphoresis or unpleasant ptyalism. 6. That the promptness with which an adequate dose of pilocarpin interrupts a chill is suggestive of its possible efficacy in cases of pernicious intermittent fever, where prevention of the full development of a paroxysm is often of the first importance.

It will be observed that in all but one of the preceding cases the medicine was administered *during the chill.* I have more lately been able to study seventeen cases in which pilocarpin was given *before the chill,* with a view to preventing its occurrence. In five of these the remedy was administered hypodermically; diaphoresis resulted in from two to five minutes, and in every case the chill was prevented. In one of these cases a second dose was required two days afterward, which was again successful. Quinine was given, in three instances, in small doses (three to five grains three times a day). In the twelve remaining cases the muriate of pilocarpin was given by the mouth. In two instances the medicine failed to act, no diaphoresis being produced; in these cases the impending paroxysms were not prevented, but went through their usual course. In ten instances diaphoresis, more or less marked, resulted in from ten to twenty minutes after the pilocarpin was taken; in all these cases the paroxysm was averted. In three of these twelve cases, including the two in which no diaphoresis was produced, it was found necessary to use pilocarpin again. About half of the twelve patients took quinine.

Administered hypodermically, the drug acts more surely, more rapidly, more evenly; the dose required varies between gr. 1-5th and gr. 1-6th, according as the patient is large or below medium size. The following solution may be used:

℞ Pilocarpiæ muriat.....gr. j.
Aquæ destill.....ʒ j.
Sig. m. x=gr. 1-6th. M.

Like similar solutions of other alkaloids, this one begins to lose strength' and is no longer reliable, after standing two or three weeks in a warm room. One-grain powders of the drug may be kept for an indefinite time, put up by the druggist in a manner to prevent deliquescence; the above-mentioned solution can then be made fresh as occasion may require.

If the patient objects to hypodermic medication, or if circumstances render this method of administration inconvenient, the remedy may be given by the mouth, and yet act efficiently. In this case the dose will

vary between gr. 1-4th and gr- 1-5th. It is best given in powder, as follows:

℞ Pilocarpiæ muriat..... .....gr j.
Sacch. lactis.....gr. xxv.
Div. in chart., No. V. M.

These powders may be given to the patient, with directions when to take them.

To prevent the occurrrnce of a chill, pilocarpin should be given hypodermically about fifteen minutes before the time when it would commence; if given by the mouth, an interval of half an hour is desirable, on account of the slower action of the drug when administered in this way. In cases where distinct prodromata, with which the patient is familiar, enable him to predict a chill, these will indicate when the medicine should be taken. In cases where there are no prodromata, it will be necessary to approximate, judging from the hours at which preceding chills have occurred. In those instances in which paroxysms come on at odd times, without any regularity, the patients may be advised to carry powders about with them, taking one whenever an attack seems impending. It is in this last class of cases that the administration by the mouth is especially convenient; the patient can have always with him a remedy which he can use at a moment's notice.

It is well to assist the action of the pilocarpin with warm coverings and a warm drink; it is noticeable that unpleasant salivation is least apt to occur in those cases in which diaphoresis is prompt and easy. Should the sweating cause the patient to feel cold and fatigued, a stimulant may be administered with propriety. In one case in which profuse diaphoresis continued longer than was desirable, it was checked promptly and without unpleasant symptoms with atropiæ sulphat., gr. 1-96th, administered hypodermically.

The advantages of this addition to the therapeutics of intermittent fever are sufficiently obvious. The physician, called to a patient in a chill, can at once give him relief. If the chill has just begun, the administration of pilocarpin will in most cases cause the paroxysm to abort, there will be no hot stage, and the patient will escape the exhaustion incident thereto; if the chill has been in progress for fifteen or twenty minutes before the pilocarpin is given, it will be cut short, and many of the patient's disagreeable sensations dispelled; but some fever will generally follow—this, however, will not range so high nor last so long as it would have done without treatment. In either case the tendency to the occurrence of another paroxysm will be much less than if the first had been allowed to run its course without interruption. Quinine may now be given, but need not be pushed to the induction of absolute cinchonism; for, if another chill should threaten to occur, it could with certainty be prevented with pilocarpin. In this way the patient escapes the unpleasant effects of large doses of quinine, the fever being none the less effectually cut short at once; paroxysms not being permitted to occur, exhaustion is avoided, and convalescence is easy and rapid. In cases where quinine, through idiosyncrasy, is contra-indicated, it may be left out of the treatment altogether, and entire reliance be placed upon pilocarpin. A large majority of cases of intermittent fever terminate without further treatment after the thor-

ough abortion of a single paroxysm with pilocarpin; very few cases indeed, not five per cent., will continue long enough to require a third use of the remedy. One great advantage is that pilocarpin need not be used blindly; it is required only when a paroxysm is felt to be on the point of developing. If the necessity for the medicine does not present itself, the patient may be spared the inconvenience of taking it.

The power of the pilocarpin to cure intermittent fever entirely, by simply anticipating and preventing the occurrence of one or two paroxysms, is greater and more striking than will easily be believed by those unaccustomed to its use. I have histories of four cases which have already resisted quinine and other approved anti-malarial remedies for periods varying from two to four weeks, but which terminated after the decisive control of a single paroxysm with pilocarpin. The most recent of these recoveries took place three months ago, yet a relapse has not occurred in a single instance.

Vague and ill-defined malarial manifestations, headaches, neuralgia, etc., are very successfully treated by the administration of pilocarpin a few minutes before the time for their occurrence; the effect will be most satisfactory when the disturbance in question is attended with some rise of temperature, and is distinctly periodic.

No good results seem to follow the administration of pilocarpin during the hot stage; its efficacy appears to be limited to its power to prevent or break up that primary disturbance of the circulation which ushers in a paroxysm. It acts quite as well, however, in cases where the cold stage is not marked, if it is given early enough to produce diaphoresis before the fever is well declared.

After having witnessed its administration in nearly a hundred cases, the author feels justified in asserting that, in the doses required in intermittent fever, the action of pilocarpin is unattended with danger or discomfort; this assurance is certainly not superfluous, in view of the fact that many good authorities hold that its use in uræmic coma and convulsions (in which connection it is most familiar to the profession) has been followed by serious cardiac depression and pulmonary œdema.—GASPAR GRISWOLD, in *New York Med. Jour.*

THE TELEPHONE AND MICROPHONE IN AUSCULTATION.

BY C. J. BLAKE, M.D.

It is too soon to have forgotten the enthusiasm which greeted the first publication of the electrical transmission of articulate sounds as made possible by the invention of the telephone, and the interest which was awakened in the medical profession in anticipation of its value in auscultation, and especially for the purposes of clinical demonstration—expectations which were still further encouraged at a later day by the results of experiments made almost simultaneously by Mr. Berliner, of Boston, and Prof. Eli W. Blake, of Brown University, in this country, and Prof. Hughes, in England, and published to the world by the latter in the various forms in which the discovery was demonstrable, as the microphone.

It is now more than four years since the introduction of the telephone, and more than two years since the appreciation of the full value of the "broken circuit" in connection with the telephone for sound transmission; in addition to the various forms of "transmitters" which are used on telephone lines, and which are in fact microphones, differing only in the mechanical devices for reception of the sound waves and adjustment of the contact surfaces, several forms of microphone have been constructed especially for purposes of auscultation, but none have as yet, even in a slight degree, answered this purpose. Setting careful investigation of their capabilities aside, this is sufficiently evidenced by the fact that none of these instruments have come into general use.

That, with numerous experimenters in the field, nothing in this line of research has been satisfactorily, practically accomplished awakens the question by those who await results as to why it has not been done, and it is an endeavor to answer this question which forms the basis of this paper, in which I shall have to apologize for partially retelling a twice-told tale in explanation of experiments bearing upon this subject made at different times during the past four years, at first with the hope of devising an auscultation telephone and microphone, and finally for the purpose of determining the reasons for the want of success in this attempt.

Having failed at one end, it was necessary to begin afresh at the other; this I am inclined to think has been the experience of other investigators of this subject, and as achievement is so often, finally, the result of the study of apparent impossibilities, it is to be hoped that a practically useful auscultation microphone may yet be devised. When the discoveries of the telephone and microphone were first announced, some very enthusiastic gentlemen went so far as to predict that telephonic consultations would be held, and that eminent special practitioners, who "listened to the heart-beats of a nation," as a matter of business, would each settle themselves down in the centre of a web of wires and auscult at indefinite distances from the patients; the general argument being that an instrument which could make audible the footfall of a fly or the rustling of a camel's-hair pencil could certainly transmit at their full value the sounds from within the chest cavity which are so loudly heard in the stethoscope. But little of that knowledge of the practical working of the telephone over the lines in use for purposes of ordinary communication, which came with the general introduction of the instrument, was necessary to prove the baselessness of this scheme; the very delicacy of the telephone in its susceptibility to interrupted currents and its almost fatal propensity—if such an expression may be used—to pick up sounds that did not belong to it were enough to show that it could not be used for so delicate a purpose as auscultation over any circuit of sufficient length to expose it to the influence of other electric currents. The first experiments, begun in 1877, were therefore made over a private wire, extending a distance of about eight hundred feet from one house to another, overhead, isolated as far as possible from other wires, the nearest overhead wire being six feet distant, but having a ground connection; the telephones used were the ordinary hard-rubber case-hand telephones, Bell. The telephone was placed upon the bared surface of the chest, the mouth-piece of

the telephone being pressed upon the surface, the auscultant listening at the second telephone at the other end of the line. The experiment was several times repeated with the telephone upon different portions of the chest, and with varying degrees of pressure; with exception, in one instance only, of the suspicion of a barely perceptible "thud," no sound which could be referred to the heart as its source was heard, although with the telephone in this position the voice and words of the experimenter could be heard by the auscultant.

There could also be plainly heard, in consequence of the ground connection, the snapping and crackling noises indicative of earth currents, the clicking of the Morse instruments, and the sound of a "fast speed transmitter" on the Western Union lines running along the Providence railroad, and the ticking of the clock connected with the Observatory in Cambridge. It was very plain, therefore, that even if the heart-sounds could be transmitted they would be drowned by extraneous noises, and the experiment was repeated by making the auscultation in the same room with the patient, the two telephones being connected by the short flexible wires, about three feet long, in common use. Even under these favorable circumstances no sound originating in the chest cavity could be heard.

Disks of postal-card paper, having small disks of iron in the centre, were substituted for the metal disks of both telephones, but with no better results, and the experiments with the telephone alone were abandoned.

The introduction of the microphone awakened new interest in the possibilities of auscultation, and a series of experiments was instituted with various forms of this instrument, the Bell telephone being used as a receiver.

Guided by former experience, a short line without ground connections was always used, and the microphone was placed either directly upon the chest or upon a small box of proportions suitable to its action as a resonator for very low tones. In no instance were sounds heard in the telephone which could be referred to the heart or lungs as their source, but there could be distinctly heard rubbing and rustling noises resulting from the contact of the microphone apparatus with the surface of the skin and the small hairs upon it; and when the microphone was held in the hand, a short distance above the surface of the chest, noises could be heard which could be referred only to the disturbance of the opposing microphonic surfaces in consequence of the slight involuntary movements of the hand. Auscultation of the tracheal respiration was also attempted, with the same results. Of the various forms of microphone used in these experiments one was the transmitter invented by Mr. Francis Blake and used by the National Bell Telephone Company; another a microphone having a carved membrane, modeled upon the human membrana tympani; and a third a common form of microphone, but arranged with an adjustment which seemed to fit it particularly for the transmission of low tones. In order to test the capactty of the latter instrument in this respect, a rasonator was turned as near as possible to the pitch of the first beat of the heart (in this case a tone of about 170 v. s.) and placed upon the microphone. On blowing into the resonator forcibly, and thereby giving a tone much louder than that of the heart, there could be heard in the

telephone a rushing sound of comparatively high pitch, but no fundamental tone of the resonator.

A large tuning-fork of the same pitch, set in vibration and held over the microphone, or placed upon the table at a short distance from it, was distinctly heard.

It seemed, therefore, that the microphone would not transmit audibly tones as low in pitch as those of the heart-beats unless they were of considerable intensity; in other words, the volume of sound from the heart would need to be greatly increased, or its pitch considerably raised, in order to make it audible by microphonic auscultation with any present apparatus. The susceptibility of the microphone, moreover, to movements causing slight disturbances of its contact surfaces and the correspondingly loud noises induced in the telephone present a very serious difficulty in the way of auscultation.

In other words, for successful auscultation a microphone must be constructed which will respond only to very low tones of slight intensity, the contact surfaces of which shall not be subject to slight mechanical disturbance, and the adjustment of which shall be fairly permanent. In view of the work in electrical sound transmission during the past four years, no one would be so rash as to assert that these conditions cannot be fulfilled.

The reasons for the failure in auscultation as above stated, are:

(1.) In the telephones, the very considerable loss of power in sound transmission. In a series of experiments made for another purpose in 1878 it was found that in response to a tone of 448 v. s. the centre of the disk of the transmitting telephone, without the magnet, moved through a space of 0.2625 millimetre, while the disk of the receiving telephone made a corresponding movement of only 0.0135 millimetre, a loss in motion of 92.9 per cent. between the two telephone disks. With so great a loss by telephonic transmission in a tone of considerable intensity, it is claimed that the proportion of so weak and dull a sound as that of the heart, its overtones damped by transmission through soft tissues, given forth by the receiving telephone, would be inaudible to the human ear.

(2.) While the telephone creates its own current of electricity, a certain proportion of the working force which moves the disk of the transmitting instrument being expended in this operation, the microphone takes a current already provided by a battery, and merely varies the amount of the current passing from one to the other of its opposing contact surfaces. The whole of the motive force, therefore, generally speaking, is expended in varying the resistance. With this great saving the instrument is much more susceptible to very slight sounds, but it is also fatally susceptible to the influenee of very slight mechanical movements which vary the relations of the contact surfaces to each other, thereby varying the amount of current passing, and producing corresponding sounds in the telephone. These sounds are usually very loud and sharp, and interfere materially with the hearing as well as with the transmission of regular musical tones. It may be briefly put that for the delicate purpose in question the telephone transmits too little, and the microphone, in any of its present forms, transmits too much.

Several auscultation microphones and sphygmophones have been constructed in France and Germany. I have had no opportunity to experiment with them, but from the details of their construction they do not differ essentially from those used in these experiments, and I should judge them to be open to the same objections.—*Boston Med. and Surg. Journal.*

PROLAPSE OF THE OVARIES—PELVIC HÆMATOCELE.

A CLINICAL LECTURE BY WM. GOODELL, M.D.

Prolapse of the Ovaries.—The ovary is a follicular gland, and its normal size and shape is about that of an almond. These ovaries are congested at every menstrual period. It may very properly be said that a woman is a woman because she has ovaries, and not because she has a womb. Many diseases of the womb can be traced to the ovaries. The symptoms of a prolapse of one or both of the ovaries are somewhat as follows: the woman has pain in the region of the womb and tenderness in the groins. The physician will notice a small round tumor in her vagina, which gives rise to a most sickening sensation when pressed. These tumors may vary in size, all the way from the normal size of the ovary to that of a large apple. When a prolapsed ovary is of very great size, there has usually been some cystic degeneration.

This accident (prolapse) is the opprobrium of gynecologists. Thus far no positive and permanent cure has been discovered. Floating about, as the ovaries do, in the atmosphere of the abdomen, the only wonder is that they do not prolapse more frequently. The abdomen, however, is so tightly packed with the viscera, that dislocations of the organs contained in it are quite rare.

The treatment of prolapsed ovaries is, as I have just remarked, often exceedingly difficult. The worst features of the condition are generally the mental symptoms. We may put our patient in bed and subject her to a routine treatment by massage and galvanism. Ovarian troubles very often depend upon some defect of nutrition, the best remedy for which is that set forth in Dr. S. Weir Mitchell's book on "Fat and Blood, and How to Make Them." I have obtained the most remarkable cures by the continued employment of the different items of this treatment. In this case there is no cystic degeneration; the ovaries have simply become congested and fallen behind the womb and into Douglas' pouch by their own weight. There is another cause of inflammation of the ovaries in which treatment is hopeless. Such is the case where ovaritis has been brought on by gonorrhœal poison. This infection runs through the mucous membrane of the vagina and womb, and finding its way out through the Fallopian tubes, brings on peritonitis, ovaritis, or pelvic cellulitis. A woman suffering from ovaritis may be permanently sterile. This is only the case, of course, where both ovaries are diseased. If one ovary escapes, the woman may become pregnant, and so obtain a rest for a space of nine months, during which time the other ovary may be able to regain its health.

What is to be done in this case? As far as medicines are concerned,

I shall order the patient ten grains of the muriate of ammonia, with one-twelfth of a grain of the bichloride of mercury, thrice daily. The muriate of ammonia may also be given with the mistura glycyrrhizæ composita. The antimony and paregoric in it are also very excellent remedies. I sometimes give small doses of tincture of aconite, two to five drops at a time. In this case the patient has been very much relieved by the use of pessaries (pessaries generally give great pain). Indeed, I think the patient has escaped very easily. The bend of the retroflexed womb has acted as a prop and prevented this organ from squeezing the prolapsed ovaries.

What is to be said as to the performance of ovariotomy for the relief of this prolapse? The operation would be easy, owing to the position of the ovaries, but the small amount of pain and the general good condition of the patient, thus far, render ovariotomy entirely unnecessary. The hard-rubber pessary which I have used has acted as a shelf to hold them up. An examination in this case shows me that the cervix is slightly lacerated, and that there is a slight erosion of the mucous membrane; the fundus of the womb, too, is very tender. I will treat these conditions by an application of carbolic acid.

Hæmatoma in Douglas' Pouch.—This woman is forty-two years old and married. She has had no children, and has suffered from a great deal of dysmenorrhœa at each monthly period. Now what do these things suggest? A flexion of the neck of the womb, of course. She tells me that she has been suffering in this way ever since she was seventeen years old. Early in her eighteenth year she consulted a physician for her dysmenorrhœa, and he did something to enlarge her cervical canal. The operation greatly relieved her. She says, by the way, that she menstruates every three weeks. Just about three weeks ago she had, one day, a violent pain across her stomach. Soon after this was a strong desire to defecate, which could not be satisfied. Since that time she has had constant pain, and has always felt a tumor internally. She came to me as a case of tumor of the womb. I am inclined, at first sight and without questioning the woman, to doubt that statement, and rather consider the case one of pelvic cellulitis or pelvic peritonitis. The text-books say that these are two distinct diseases, but I am led to think them, if not one and the same disease, at least very hard to separate. The cellulitis is very likely to, in fact, always does, involve the neighboring folds of the peritoneum. From what the woman tells me, I am inclined to put my first suspicions entirely out of the question and say that I believe the patient has had a hemorrhage into Douglas' pouch; that immediately after the hemorrhage the pouch bulged and so gave rise to the desire to defecate. She was sick a day or two after this pain, and the flow was very abundant. I can feel the tumor on the right side, and can move it slightly. Let me make a rectal and vaginal examination. First, let me pass my finger into her vagina. I feel two tumors, one behind and one before. The tumor in front is not painful. The diagnosis is puzzling. I think the tumor in front is the womb. I can very easily determine this point by passing a sound. Yes, my sound passes in and shows the womb to be of normal size. But how about the other tumor? What is that? I can move it much more than I could were it cellulitis. Undoubtedly there has been an effusion of blood into Douglas' pouch, which effusion has

produced a slight pelvic peritonitis. When blood is effused into and confined by a shut cavity, the peritonitis or septicæmia is never so universal as it otherwise would be. By passing my finger into the rectum I am able still more clearly to fix the seat of the tumor, and at the same time note the fact that the rectum is greatly flattened. It requires some force to pass my finger through the flattened portion; now I have done so, and I find the tumor filling the position of the pouch, hard and immovable. We know that Douglas' pouch is lower on the left than on the right. In exact accordance with this fact I find that the tumor is lower on the left than the right side. Pelvic hæmatocele is sometimes exceedingly serious. What is the cause of it? At the same time of the monthlies the Graafian follicle may burst before the fimbriated extremity of the Fallopian tube is in relation to receive it, and so blood escapes into the abdomen and gravitates into the pouch. Or there may have been a retention of fluid at the monthlies which was forced from the womb into the Fallopian tube, and so out to Douglas' pouch. Sometimes, you know, extra-uterine fœtation occurs; in fact, there may be hemorrhage into Douglas' pouch from many causes. I believe that hæmatoma in Douglas' pouch occurs frequently without our knowledge.

How are we to treat this pelvic hæmatocele? It may happen, as I have just said, at a monthly period, and is attended with pain and collapse. Of course, we must make a viginal or rectal examination as soon as we see the case. We find, perhaps, an obscure fluctuation in Douglas' pouch; the blood is lying loose there, and has not yet, it may be, entirely congealed. The patient must be kept absolutely quiet, and astringent drinks, such as sulphuric acid, lemonade, etc., administered. Opium enough should be given to lull the pain and keep the patient thoroughly quiet. For a number of hours following the attack very slight nourishment should be given. Stimulants should be refrained from, and the patient kept as low as possible until all immediate danger from peritonitis has passed away. If the woman is married, her vagina should be packed with ice; if a virgin, the ice had better be placed outside.—*Clinical Record.*

Acute Tonsillitis.—We extract from article in Western Lancet the following: "I cannot too earnestly impress upon you the value of free scarification in cases of this kind. It is a simple procedure which at once relieves the dangerous congestion and inflammation, and affords the patient decided comfort. All that is necesssary to be done is to take a sharp-pointed instrument, like a tenotome or bistoury, and puncture the parts or make a few superficial incisions. Having depleted the parts thoroughly, we then make free use of ice, both internally and externally.

Night-Sweats.—A writer in the Thearapeutic Gazette says: "The latest remedy for the night-sweating of phthisis is muscarine, obtained from the agaricus muscarius, fly agaric or fly fungus. It is said to answer admirably. There are few better remedies than picrotoxine taken in the form of pills, gr. 1.60 every night at bed-time.

Prolapsus Ani in Children.—Dr. Basevi (Giornale Internazionalle delle Science Mediche) employs the following treatment in chronic cases: He first cauterizes slightly the protruding portion with nitrate of silver, and then reduces it, administering afterward, with the view of checking any tendency to enteritis, an enema of tannic acid, alum, and ice-cold water. Should this treatment prove insufficient, the child is placed on a bed with the nates upward, and steadied by two assistants, one of whom fixes the upper part of the body, while the other holds the knees elevated and somewhat abducted. The prolapsus having been reduced, the nates are brought together, and two strips of diachylon plaster, each about two inches wide, are passed from one trochanter to the other in as close proximity as possible to the perineum. To keep them in place, a spica bandage is applied around the lower portion of the body, and a piece ot gutta percha is added to protect the plaster from the contact of fecal matter. It is said that the apparatus can be left in position for two weeks. Cases of prolapsus ani in children that have, from want of attention, become chronic, are very unsatisfactory as far as treatment is concerned, and those physicians who expect a cure of such by the application of any one of the numerous astringent washes, or even of nitrate of silver, or any of the acids, will be disappointed in the majority of cases, unless strict attention is paid to keeping the child absolutely quiet, and the parts at rest.

It strikes us that the plan recommended by Dr. Basevi is a good one, and that the advantages to be gained from it are many.—*J. M. M. in Medical Herald.*

Microscopical Examination of Vaccine Virus.—We find in the "Proceedings of the Medical Society of the County of Kings" an interesting report by the committee on Hygiene, on the "causes of alleged futill and bad results following vaccination." Dr. N. B. Sizer, of the committee, gives the following results from the microscopical examination of vaccine virus; 58 specimens were examined:

20 Fresh Lymph.
1 Cone.
15 Ivory slips, charged by Dr. S.
20 Ivory slips, commercial charging.
2 Crusts.

—
58

In twenty specimens of fresh lymph only three contained the shining micrococci, (so-called vaccine corpuscle). In eleven out of the twenty, despite care, red blood corpuscles were detected, absent *only* when the *spontaneously exuding* lymph alone was used. Any attempt to increase the yield by pressure or manipulation being followed by slight hemorrhage, perhaps microscopic only. Of the 15 slips charged by Dr. Sizer, Nos. 1 to 5, inclusive, charged with freely exuding lymph, contained no red blood cells. Nos. 6 to 15, where slight pressure was used, *all showed red blood cells.* Twenty slips, from various sources, showed eight with red blood cells, one *a humanized slip*, contained blood enough to show a pink color.

The cone was composed largely of *debris*. The following conclusions were reached:

1. The presence of blood in vaccine virus is easily detected by the microscope.

2. Blood is a frequent contamination of commercial lymph in a dried state.

3. Its presence is probably due to an effort at obtaining as large a portion of lymph as possible.

4. Its presence is highly dangerous in humanized lymph, but probably of no account in that from the calf.

5. The "so-called vaccine corpuscle" has not been found in quantity or at times sufficient to render it undoubtedly a specific appearance due to vaccine. It appears to be merely a micrococcus.

6. Vaccine cones as now offered in the market are undesirable forms of transmitting lymph.

Crusts which were examined consist largely of necrosed tissue. Probably only the thin, transparent to player, is usable.—*J. B. M., in Medical Herald.*

Pneumatic Apparatus in Chronic Lung Diseases.—When we consider that this method has been in vogue for only two years, its universal acceptance, and that from ten to fifteen per cent. of the entire population of the earth is carried away by chronic lung affections which prove so unmanageable, it is surprising that it was not adopted years ago. Different climates to suit different conditions of pulmonary diseases are urged by all. Warm, moist, dry, rarified and compressed atmospheres are agents that come in use to influence the physical conditions of our patients. According to each special case, we may select a climate where one or more of these agents come into action. By means of the pneumatic apparatus, we are not only able to produce at any time compressed, rarified, warmed and moistened air for our patients to inhale, but we can combine this mechanical with a local medicinal treatment, by passing the current of compressed air before it is inhaled through a flask partly filled with a medicated solution. At present, the following modes of treatment with the apparatus are practiced:

Inhalations of compressed air in cases of congestion of the lungs, stenosis and insufficiency of the mitral valve, chronic bronchitis, pleuritic residues and asthma. *Exhalation* in rarified air in all cases where the elasticity of the lungs and contractility of the chest are lost or impaired, emphysema, paralysis of the muscles of expiration, poisoning from carbonic oxide, etc. *Inhalation* of rarified air to exercise and strengthen the lungs and muscles of respiration in incipient consumption and predisposition to this disease. *Inhalation* of medicated compressed air in chronic bronchitis, etc. *Inhalation* of compressed air with exhalation in rarified air combined. This method has been found very useful in cases of emphysema complicated with chronic bronchitis. This method has all of the advantages of climato-therapy, without many of the discomforts often necessary to attain it.—Dr. A. E. Brune, of Sacramento, in *Pacific Med. & Surgical Journal*, August, 1880.

New Method for Withdrawing Fluids from the Middle Ear.—Dr. Charles Denison, of Denver, Col., states (in the Rocky Mountain Medical Review) that last winter, in the act of blowing his nose—having a cold at the time—catarrhal or other secretion was forced through the Eustachian tube into the middle ear, causing pain which was not relieved by the usual palliative measures. The experiment which gradually overcame the difficulty was this: Attaching the flat nozzle used with Pollitzer's air-bag to the exhaust bottle of his aspirating apparatus, he first exhausted the air from the bottle, and then compressing the alæ of the nose, with the nozzle introduced so as to wholly exclude air from without, he closed his throat as in the act of swallowing, and kept it so, and at the same time directed the stop-cock to the vacuum bottle to be turned on. The effect of thus transferring the vacuum to the middle of the head was decided, seeming to draw everything inwards towards the pharynx and nasal passages, creating a temporary congestion of those parts. But the pain in the ear was perceptibly lessened by the experiment, and on its repetition finally wholly disappeared. He thinks that the effect was mechanical, and that a small portion of the fluid was probably drawn into the Eustachian tube at each operation. Since that time he has tried the experiment in practice as opportunity has offered, and mainly with results similar to those above mentioned. In one instance, he believes the stage of suppuration had set in, for he intended to puncture the membrana tympani the next day after this operation had been tried. But the patient did not return, and he found some time afterwards that improvement had continued from that time till she wholly recovered.—*Va. Medical Monthly.*

Clover Tea for Cancer.—This is not a new remedy, but it is one capable of doing good in some cases. At the request of a noble woman, who for years has suffered the agonies of cancer, and who has been greatly benefitted by this remedy, a writer in the Medical News wishes to re-awaken an interest in its use. She says: "The clover tea has done wonders for me. My appetite is now good, my general health greatly improved, and the wound is healing. For seven months I have had to take morphia, and its unpleasant effects had become great. My pain having so much diminished under the use of the clover tea, and my general health having gotten so much better, I determined to give up the morphia, and have gotten on comfortably without it. If my experience will save one poor suffering fellow creature a single pang such as I have suffered, I will thankfully bear my cross, and rejoice that through me a remedy has been found which will give relief, if not a cure, for cancer. The tea should be made as tea is made for table use, strained, and taken before meals and at bedtime, about a quart daily. The blossoms of red clover should be used.

A fluid extract has been made, of which the dose is a tablespoonful thrice daily.—*Va. Medical Monthly.*

Tea as an Antidote to Opium.—I have already published some remarks in the Dublin Medical Gazette, and also in the London Lancet, on the wonderful effects of tea as an antidote to opium. One of the first cases in which I had recourse to tea, was that of a lady who had taken a quantity of Batting's "black drop," so enormous that I

am almost afraid to mention the amount fearing that it may not be credited. However, as I had no reason to doubt the facts represented to me at the time, the quantity taken of the above named drug between 4 p. m. and 11 p. m. of a certain day was, as far as I can remember (having lost my note), ʒ xxviij, or ʒ ij every half hour for seven hours. But, let the dose be what it may, we have chiefly to do with its effects. At eleven o'clock she had a severe convulsion; at 11:30 or thereabouts I saw her, and found her in the following condition: Extremities perfectly cold, no pulse at the wrists, face pale, drawn, and cold, pupils contracted to a pin's point, and her respiration three in two minutes. To all appearances she was dying, but, being the wife of a medical man, and he absent, I sent for my colleague, Dr. Jackson, who arrived about midnight, and gave it as his opinion that she would not live ten minutes. While the messenger was absent for Dr. Jackson, I caused a strong infusion of green tea to be prepared, of which I administered half a pint as an injection. In twenty minutes, to my astonishment, as well as that of Dr. J., we could just discover the pulse at the wrist. There was the slightest tinge of red in the lips, while the respiration was *six in one minute* instead of *three in two minutes*. Encouraged by these wonderful results, another half pint was given at half-past twelve, after which she improved rapidly, so much so that at four o'clock in the morning she said to me, "please light the gas, I know your voice but cannot see you." The sun was shining brightly into the room at the time. I have been asked, "Why did you not give an emetic?" I answered, because I conceive no emetic would have had any effect on the paralyzed condition in which we may presume the stomach was after having received the enormous amount of opium above mentioned. I have also been asked why I did not use the stomach pump? Answer, because I do not always take a stomach pump with me when I go out at night, but chiefly because I could see no advantage to be derived from this instrument, seeing that a very large portion of the poison had already beed absorbed, and was now doing its fatal work. Moreover, I believe the attempt to introduce the tube in the prostrate state of the patient would have probably caused her death then and there. The remedy I think should always be administered by injection, as it is more likely to be quickly absorbed by a healthy bowel than a paralyzed stomach. Of course theine and caffeine would act probably quicker than the simple infusion, but the former remedies are not always at hand, while the tea is. The opium in this case was taken to relieve the pain of angina pectoris.—*Dr. Swell in Canada Medical Journal.*

Points in the Surgery of the Urinary Organs which Every Practitioner Ought to Know.—Teevan, in a paper recently read before the Harveian Society of London, called attention to the following points:

1. Retention of urine in children is always caused by stone, unless there is some mechanical obstruction to the escape of urine, such as a contracted meatus or foreskin.

2. Incontinence of urine, when diurnal as well as nocturnal, may be caused by a calculus impacted in the deep urethra. A stone would thus, in the one cace, give rise to retention, and in the other to incontinence, for the reason that when in the bladder and at the *meatus in-*

ternus it caused contraction of the sphincter which closely embraced it; advancing farther for half an inch down the canal, it acted as a gag preventing the contraction, and allowing the urine to dribble away by its side.

3. Incontinence of urine in boys may be caused by a congenitally contracted meatus, preventing the free escape of urine and setting up reflex action, resulting in the dribbling.

4. Dribbling of urine in men signifies retention, not incontinence. There is at first retention, until the bladder is overfilled, when gradually the obstruction is overcome by contraction of the bladder-walls, and then there is dribbling, the bladder still remaining distended.

5. When a catheter is introduced, if the urine is expelled with violence and pain, not only through the instrument but along its sides, hetween it and the urethral walls, there must be a calculus impacted in the deep urethra.

6. It is not possible to empty the bladder completely in every case, for the reason that it may be sacculated.

7. A gleet of more than six months standing implies an incipient stricture.

8. In cases of enlarged prostate, suspect a stone, for the reason that all the conditions necessary for its formation are present.

9. When a man, complaining of a frequent and painful micturition, is worse during the day than at night, he most likely has stone. In prostatic cases of frequent and painful micturition, the patient is much worse during the night. Calculus cases are most comfortable in bed; when they move about during the day they have pain from the movements being impressed on the stone.

10. When a man, complaining of frequent and painful micturition, is worse when riding on horseback, or in a vehicle, suspect stone, the reason being the same as just above.

11. See that the bladder of the woman in labor is empty before delivering the child.—*Western Lancet.*

Action of Sugar on Calomel.—From time to time notes have appeared in various journals, warning against the changes said to be produced in calomel by sugar and various other substances with which it is often prescribed; while many therapeutists advise that so long as calomel is being taken, no salted food or acid drink should be allowed. M. Verne has submitted these views to the test of experiment; he made various mixtures of calomel with common salt (in solution), beet-root and colonial sugar, solution of citric acid, etc.; these he examined at the end of periods varying from 3—15 days. Although at the end of these intervals the mixtures he experimented with showed to the eye sight traces of change, chemically he could find no evidence of the presence of corrosive sublimate, or of any soluble salt of mercury. He refers such accidents as have been reported chiefly to impurities in the drug; as supplied to the chemist, calomel is usually, to some extent, impure, and should always be washed with distilled water and alcohol. The danger of giving acid drinks with calomel is purely theoretical; it was proved that the latter, when exposed for fifteen days to the action of a 20 per cent. solution of citric acid, underwent not the slightest alteration. M. Verne concludes that the sub-chloride of mercury is a

much more stable salt than is generally supposed; it is, in fact, more stable than corrosive sublimate, as solutions of the latter, when exposed to light and the influence of various organic substances, deposit calomel. Non-coagulated albumen, however, at the temperature of the human body, reduced calomel rapidly and easily, transforming it into a slightly soluble albuminate. Neither common salt nor sea salt, at 40° C., had any action on calomel, either when used alone or in the presence of albumen.—*Medical News and Abstract.*

Hypodermic use of Quinine.—Dr. Whittaker (in Lancet and Clinic) says: "I have, in practice, entirely discarded all vehicles except water, and rely solely upon heat to obtain a perfect solution. I have the druggist put into a test tube twenty grains of the bromide of quinine and add to it two drachms of water. The tube should be corked, not to preserve the substance, for it is still crystaline in this proportion, but for cleanliness. To use the drug, all that is necessary is to heat the tube over a gas flame, coal oil lamp, or other means of illumination. The tube should be held above the light, of course, and not in it, that it be not smoked, and hence rendered opaque. Two or three minutes suffice to reduce the quinine to limpid, crystaline fluid in the tube. Thence it is poured, then, in sufficient quantity into a teaspoon, previously warmed by holding one minute over the flame, and thence from the spoon it is taken up into the syringe, warmed also in the same way, and is ready for use, which must be immediate. It may be injected anywhere, but always *under* and never *into* the skin. The ordinary syringe contains half a drachm, and this introduces about five grains at a time.

I have never known a patient to object to the introduction of the needle for the injection of ten or fifteen grains, if need be. The whole operation, no previous preparation being necessary, occupies about five minutes time, not a tithe of that often consumed in irrelevant conversation.

Erythoxylon Coca on the Opium and Alcohol Habits.—Dr. Bentley, in Therapeutic Gazette, reports the following cases:

Miss M., a sprightly, intelligent blonde, æt. 30. I had been acquainted with her for 15 years, and for several years of our early acquaintance, when the family lived near me, was her father's family physician. In June, 1878, I accidentally met her on a train. Eight years previous she had a protracted attack of pneumonia, during which she contracted the habit of using morphine, which she still retained. These facts were well known to me, so I took occasion to ask her if she had left it off. She replied in the negative, and told me that she then required 10 grs. twice a day. She had tried nostrums and had visited some advertising quack in another State, to no purpose. I then suggested the erythoxylon, fully explaining its action. The result was I prescribed a pound for her. I received a note from her when she had used this. She was much encouraged, and had ordered two pounds more. This quantity completed the cure. I saw her recently, when she assured me that she had no desire for morphine.

Case 2. July, 1878, was called to a case some 15 miles distant, and nearly all the way "in the hills." I was quite astonished to find about

one-tenth of an acre in poppies. On enquiry, the lady of the house, a widow, æt. 40, told me that she was an "opium eater," to use her expression, and that she used her own opium. From what I could learn, she used about half a pound of the drug a year. I persuaded her to give up the habit. She declared that she could not. She agreed, however, to try, so I sent her ½ lb. fld. extr. coca to begin with. When used, she sent for half the quantity, stating that she thought it would complete the cure. I sent her a half pound. She sent me her opium crop that winter, with the message that the medicine had cured her.

Case 3. An aged lady, æt. 72. She had been addicted to the habit for 35 years. I persuaded her to try the coca. She was then taking ½ drachm doses of opium three times a day. She said she felt sure she would be unable to leave off the opium, but as she was wealthy and extravagant, she readily consented to try the coca. She procured two pounds on my prescription, and began its use. The progress of the case is rather amusing. She uses one for a time, and then resorts to the other. Sometimes she does not taste opium for a fortnight, using the coca during the time, then she returns to her opium, and thus she alternates. Her doses of opium have been reduced, to as little, I think, as 10 grs., and her general health has greatly improved. Before using the coca, she was a great sufferer from duodenal dyspepsia. She has so far improved, in this respect, that she rarely suffers in this particular, and it is a wonder, too, for she is a ravenous feeder, and as fond of "cake and pastry" as a child, and, withal, uses a great deal of wine.

Case 4. An unmarried man, æt. 27. Contracted the "opium habit" five years previous to using the coca. Had become a great slave to morphine. June, 1879, I put him upon coca. He ordered three pounds at the beginning. In October following, I met him, and he assured me that he was entirely relieved of the habit, and had one pound of his medicine left.

Treatment of Scarlet Fever by Warm Baths.—The following communication from W. Vawdrey Lush, M.D., physician to the Dorset County Hospital, appeared in The Lancet, Aug. 14, 1880:

In Dec., 1869, while we were experimenting with a very severe epidemic of scarlet fever, there appeared in The Lancet a reprint of a letter by Dr. Charles T. Thompson, strongly advoceting the use of warm baths in this disease, and stating that he had pursued the practice for fifteen years, and had never lost a patient.

In consequence of this communication, I commenced this practice ten years ago, and have followed it from that time to the present. At first I ordered the patient to have three warm baths daily, to be kept in from three to five minutes, rapidly dried, wrapped in a blanket, and returned to bed. As the disease subsides, I reduced the baths to two or only one daily. I find that—1st, it brings out the rash; 2d, reduces the temperature; 3d, soothes the patient; and when this treatment has been adopted at the outset, I have as yet not lost a single patient.

In one case the warm bath was objected to till the child had been ill several days, and this case, and this alone, proved fatal.

My friend, Dr. Alfred Hollis, of Freshwater, has told me of the

great comfort he himself experienced from warm bathing when suffering from the disease; and, of course, in the treatment neither medicine proper nor good nursing is precluded.

Some of my readers may recollect a case of small-pox published by the late Dr. Stokes, of Dublin, where the warm bath proved singularly beneficial, and who doubted not that the mortality in small-pox hospitals would be greatly diminished by the use of the bath. The case I refer to was that of a medical student, in which "the postulation was almost universally confluent; the purulent matter highly putrescent; the hemorrhagic state developed, the body one universal ulcerous sore, and the blackness of the worst purpura developed; the odor of an intensely pungent and offensive character, which seemed to pass through the bystander like a sword. Stimulants alone, freely and constantly employed, seemed to preserve the patient alive. The pulse was rapid, weak and intermittent, and for several days life was despaired of. At this juncture, Dr. Stokes happened to describe the case to his colleague, Mr. Smyly, who suggested the trial of the warm bath. Pillows were adjusted in one, the patient placed in it, and the effect was instantaneous and marvelous. The delirium immediately ceased. The patient exclaimed, "I am in heaven! I am in heaven! Why didn't you do this before?" He was kept at least seven hours in the bath, brandy being freely administered, and removed to bed. The bath was repeated the next day, after which he fell for the first time into a tranquil slumber. From this time recovery was progressive."

This may seem a digression; but the treatment of another of the exanthemata by similar means is not inapposite.

My ten years added to Dr. Thompson's fifteen make twenty-five years' experience of a treatment which I can confidently and heartily recommend. *Mich. Med. News.*

Hot Rectal Douche.—Dr. Chadwick, of Boston, in a paper before the American Gynecological Society, "Recommended the use of hot rectal douche for arresting diarrhœa and abdominal pain, and for pelvic inflammations of all kinds. Hot water thus brought into the abdominal cavity will encircle the whole mass of pelvic organs and produce a wonderful effect upon inflamed organs. After citing a number of cases, the Doctor remarked: "The water should be as hot as the hand can endure; while using the douche pass the finger into the vagina with the palm backward. The minute you begin to feel the lower pouch filling up you must pause a moment, without a withdrawal of the nozzle. In this wise from one to four pints of water may be introduced without exciting immediate action. The patient must be quiet for about a half hour. It is not wise for the patient to resist the expulsive efforts of the muscles. The peristaltic action is very variable. Sometimes it will be set up very soon, and sometimes not for hours. I am unable to say how far up the water usually passes, but I am satisfied it passes through the large intestine to the valve. Retrostalsis, I am satisfied, does occur under some circumstances. I recommend its use two or three times per day for a week or so, and then sometimes to be discontinued for a week. I recommend the douche principally for an inflammatory condition of the large intestines or the rectum, secondarily, a condition of the pelvic organs characterized by painful defecation or burning sensations about the ovaries."

Ulceration of the Bowel following the Injection of a Pile with Carbolic Acid.—Mrs. J. H. W., from an interior town in Kentucky, consulted me at the instance of her family physician, for rectal trouble, in July last. She gave this as the history of the affection: For several years she had suffered with what she had supposed to be internal piles. The first few months she lost blood both at stool and in the interval. Nothing at that time protruded from the bowel. Later on, however, the bleeding seemed to check, and a protrusion of a tumor would take place while at stool. After action the protruding part would retract of itself. Very little pain was experienced during the entire time, but for the inconvenience she sought the advice of an advertising physician. He diagnosed the case as one of internal piles, and recommended an operation. An injection of the tumors was practiced, consisting, it was inferred, of carbolic acid, of what strength is not known. The piles sloughed, and the woman believed herself to be cured, but after her return home pain manifested itself at stool, which would continue for hours after. The condition continued to grow worse until the time of her application to me. Upon an examination, an ulcer was found above the external sphincter muscle, and bordering upon the internal. It was about one-half inch in diameter, and looked very angry. It was caused, as could be very easily seen, by the sloughing of the tissues from the injection into the pile. She was at once put upon the proper treatment, but it was some weeks before she could be pronounced well. This is but one of a number of cases of ulceration following the injection of carbolic acid into piles, that has been seen by the writer, and is cited to show that sloughing is one of the immediate dangers to be anticipated in the carbolic treatment of piles.—*Louisville Med. Herald*, Nov.

Miss Adelaide Neilson—Cause of Her Death.—Dr. W. E. Johnston, of Paris, who frequently attended Miss Neilson during attacks of illness, states that the disease from which she suffered was principally gastralgia, dependent quite as much on moral causes as on errors in diet. In her last fatal attack, during a most violent recurrence of pain, she suddenly ceased to complain, went into a state of syncope, and died in the syncope. The post mortem examination made the next day disclosed the extraordinary fact, one of the rarest in the history of medicine, that in her writhings she had ruptured a varicose vein in the left Fallopian tube, and had died from internal hæemorrhage. Two quarts and a half of blood were found in the peritoneal cavity, and the ruptured vein presented an orifice of from four to five millimetres in diameter.—*Maryland Med. Jour.*

Aihun.—Aihun is called, in Brazil, a disease peculiar to the negro race of that country, which affects the small toes of the feet.

It is, according to the opinion of Dr. Guimaraes, a *sui generis gangrena*—a steady, slow, mysterious work of decomposition, only limited to the small toes of the feet, probably due to the lack of nourishment of these parts, that causes a retrograde metamorphosis in them, and gradually their final elimination from the body, without giving much trouble, at least in the commencement, to the general system.

The disease never appears among the white people. The first who

called the attention of the medical world in Brazil was Dr. Moncorco de Figueiredo. In a paper read before the Medical Academy of Rio Janeiro, in 1874, he related a case operated by him, and presented, at the same time, the pathological specimens.

Farther investigations were since pursued by other distinguished practitioners of that empire, such as Drs. Silva Lima, and Domingos de Almeida Martins Costa.

Later, Dr. Guimaraes has discovered an exception to the rule—that is, he had a case in which, not only the small toes were affected, but also the fourth.

The proximate cause of these strange phenomena is supposed to be in the contracture of the arteries that nourish the toes.

Not much is known with regard to the treatment of *aihun.*—*N. O. Med. Jour.*

The Two Bogus Colleges Finally Wiped Out,—The American University of Philadelphia, and the Eclectic Medical College of Pennsylvania, known to the community as Buchanan's Colleges, were, on September 30th, finally wiped out of existence. J. Howard Gendell, who represented the Commonwealth of Pennsylvania, filed his replication to the answers, put in by the colleges some time ago, to the quo warranto proceedings against them. The answers of these two corporations were, that they had a right to exercise their franchises by acts of the Legislature. Mr. Gendell's replication set out substantially that the colleges forfeited their rights under those acts, because they conferred degrees upon persons not possessing the qualifications prescribed in their charter; by selling diplomas; by granting degrees for doctor of medicine and antedating the diplomas so as to make it appear that the party had a right to practice medicine; and finally, by issuing diplomas with forged signatures After the replication was filed, the counsel for Dr. Buchanan confessed judgment of ouster, and filed, as part of the record, a letter from Dr. Buchanan instructing him to do so.—*Med. and Surg. Rep.*, Oct. 9.

Parotitis as a Complication of Ovariotomy.—R. Moricke says that the not very uncommon concurrence of parotitis and inflammation of the testicle has its analogue in the female sex, certain cases having been recorded where parotitis followed or became intercharged with disease of the female sexual organs. Among two hundred ovariotomies reported by Schroder, parotitis was observed in five cases; only one of these could be referred to infectious disease, consequently there could be no question of metastasis. The enlargement began in one case on the fourth day, in the other cases from the sixth to the seventh day. In these cases suppuration of the parotid gland occurred. One patient died of this affection, so that in debilitated individuals it may be regarded as a serious complication of avariotomy. The relationship of the two affections is difficult to understand.—*Phil. Med. Times.*

Painless Operation for Ingrowing Nails.—Dr. J. H. Converse, in American Medical Journal, says: "I will give this for the benefit of your readers, as perhaps it will be new to some of them. It

consists of wedging cotton under the free margin of the nail, placing over it a piece of adhesive plaster with a hole cut into it the size and shape of nail to be removed; then moisten the end of a pencil of caustic silver and apply it to part to be removed, taking care not to touch any other portion. The next day the nail will have assumed a black or brown appearance. Upon raising the nail it will be found to have become separated from the sub-adjacent tissue, and all that is required to complete the cure is to clip off the dead portion."

[We think it doubtful whether the cauterized portion can be clipped as early as the next day, as above stated, but publish it that it may be tested by our readers.—ED. REC.]

Muriate of Ammonia in Intermittents.—Dr. Smythe, in Michigan Medical News, in cases where a troublesome rash results from the use of quinine, says: "To avoid the liability of causing this very disagreeable affection, in all the subjects, who are known to be liable to be attacked by this peculiar rash when suffering with intermittents, (I have several such patients, my son being one), I have for many years substituted the hydrochlorate of ammonia, in powder, with the most happy and successful results. Fifteen grains every two hours, commencing eight or ten hours before the return of the paroxysm, four or five doses generally answering for the time, to be repeated for two or three days, thereafter in the same way."

Arsenic in Consumption.—In the Medical Press and Circular, Dr. Wm. A. Pearse says the success of the following combination in many cases of consumption has been so great that he feels it a duty to bring it before the profession.

℞ Liqu. arsen. hydrochlor, *m*lxiv., quinia sulph. grs. viij., acid hydrochlor dil. ʒiij., syrup aurant. ℥j., infus. chirettæ ad. ℥viij. M.

This mixture equals sixteen doses, of which one was taken three times a day, after meals. In many cases ten minims of sea water were added to each dose; in others two grains of sulphate of manganese. The patients were directed to continue the medicine during six weeks, then to allow an interval of a week, and again to resume treatment.—*Medical Journal.*

Fasting or Starvation.—Mr. George Fleming, F.R.C.V.S., in the Veterinary Journal for September, referring to the supposed fasting experiment of Dr. Tanner, says that a similar cruel attempt was made with a number of horses in Paris in the spring of 1876. There was, indeed, this difference between the two cases, that the fast was forced upon the poor quadrupeds without their consent, and that there was a pretense of utility about the French experiment. The aim, as it was stated at the time, was to discover how long horses could go without food in the event of the scarcity which accompanies a state of siege. The following results were obtained from the inhuman experiment:

1. It was proved beyond all doubt that a horse can hold out for twenty-five days without any solid nourishment, provided it is supplied with sufficient and good drinking water.
2. A horse can barely hold out five days without water.
3. If a horse is well-fed for ten days, but insufficiently provided

with water throughout the same period, it will not outlive the eleventh day.

One horse, from which water had been entirely withheld for three days, drank on the fourth day sixty liters of water within three minutes. A horse which received no solid nourishment for twelve days was nevertheless in a condition on the twelfth day of its fast to draw a load of two hundred and seventy-nine kilos.—*Louisville Medical News.*

The Topical Use of Ergot.—The value of the local use of ergot is receiving endorsements from various quarters. It is particularly applicable in catarrhal diseases of the eye and throat. In chronic conjunctivitis it may be employed in the strength of gr. x. of the extract to ℥ j. of water, a little glycerine being added to preserve the drug. In chronic pharyngitis, when the secretion is not very great, it makes an excellent ingredient of a gargle, or it may be used with tincture of iodine and applied with a probang. In cases of nasal catarrh, it may be applied by means of gelatine bougies. In using the ergot it should generally be combined with glycerine, as that agent both preserves it from decomposition, and keeps it longer in contact with the diseased surface.—*Medical Press and Circular.*

Quinine as an Anti-Abortive.—While many claim that quinine is capable of exciting uterine pains, we find Dr. Campbell, in American Gynecological Gazette, takes "the ground that the liberal use of quinine in malarial regions is absolutely essential to prevent abortion, and was sustained in his opinion by most of the debaters who took part in the discussion."

Summer Complaint.—Essence of camphor is recommended for summer diarrhœa of children. Five drops on a piece of sugar every ten minutes or a quarter of an hour, according to the severity of the symptoms, will nearly always stop it.

Beri-Beri.—Beri-beri is a constitutional disease of an infectious nature, whose etiology is unknown; assuming a mixed condition of paralysis and œdema, characterized by dyspnœa; disorder of the organs of digestion, of respiration, of circulation, and principally of the nervous system. The disease properly belongs to the tropical regions, where it prevails endemically or epidemically.

Treatment of Puerperal Fever.—Dr. Bell finds that no remedy is so effectual in purifying the system in cases of puerperal fever as the Edinburgh preparation of the tincture of the muriate of iron, when given regularly in full doses frequently repeated (*e. g.*, thirty drops every two hours.) The great error in the employment of this medicine is the timidity shown in giving it in sufficient doses; in consequence its good effects have been questioned in other diseases of a zymotic character, such as erysipelas, diphtheria, and scarlet fever. It has a remarkable effect in moderating the pulse and diminishing the secretion of pus. Dr. Bell thinks it right, however, to warn the practitioner against trusting to a new preparation of iron called the tinct. ferri perchloridi, which differs from the tinct. ferri muriatis in its formation, its medicinal effects, and in its analysis.—*The Edinburgh Medical Journal.*

SCIENTIFIC ITEMS.

Copying Ink.—Copying ink is made from many of the ordinary by the addition of sugar or glycerine, which prevent them from becoming perfectly dry. When a page written with this ink is moistened, the ink becomes sufficiently liquid to allow an impression to be taken from it on thin unsized paper.—*Boston Journal of Chemistry.*

Why the Needle Points to the North.—Prof. C. T. Paterson, of the United States Coast Survey, in reply to an inquiry, wrote the following clear and concise explanation of the *directive* action of the magnetic needle :

The reason why the needle points in the northernly direction is that the earth in itself is a magnet, attracting the magnetic needle as the ordinary magnets do; and the earth is a magnet as the result of certain cosmical facts, much affected by the action of the sun. These laws have periodicities, all of which have not as yet been determined.

A condensed explanation in regard to the needle pointing to the northward and southward is as follows : The magnetic poles of the earth do not coincide with the geographical poles. The axis of rotation makes an angle of about 23° with a line joining the former.

The northern magnetic pole is at present near the arctic circle on the meridian of Omaha. Hence the needle does not everywhere point to the astronomical north, and is constantly variable within certain limits. At San Francisco it points about 17° to the east of north, and at Calais, Maine, as much to the west.

At the northern magnetic pole a balanced needle points with its north end downward in a plumb line; at San Francisco it dips about 63°, and at the southern magnetic pole the south end points directly down.

The action of the earth upon a magnetic needle at its surface is of about the same force as that of a hard steel magnet forty inches long, strongly magnetized, at a distance of one foot.—*Ibid.*

Lunar Geology.—J. Landerer has submitted to the Paris Academy a work in which he seeks to determine the lithologic character of our satellite. He thinks that the density of the moon and the angle under which it polarizes the light of the sun are such as to show that the materials of the surface are analogous to those of the silicate rocks.

An Electro-Magnetic Experiment.—According to Nature, Signor Agostini finds that if through a drop of mercury, lying on a surface not wet by it, a current of electricity be sent in a vertical direction it rotates under the influence of the earth's magnetism, as may be seen if a few particles of lycopodium powder be strewn on it. Similarly a mercury drop rotates when it is placed on the surface of a steel magnet, and the magnet is connected with a positive pole of a very weak element, while an electrode penetrating the drop from above is connected with the negative. From the strength and direction of rotation of a number of such drops, one may make visible the distribution of the magnetism in the magnetic bars themselves, as when an iron bar

is brought coaxially near to one end or into contact; also in the latter. The results of previous experimental measurements are thus confirmed. —*Boston Journal of Chemistry.*

The Blood of Intermittents.—Dr. E. L. Moss, staff surgeon in the British Navy, has constantly found, after the lapse of forty-eight or more hours, organisms in the blood of intermittent fever which he was unable to find in fresh blood. The organisms consist of bacteria, singly or in pairs, in active movement, sometimes stationary in zo-oglea groups, occasionally in chains of four or more. Dr. Moss's method would appear to exclude every possibility of infection.

If further investigation should confirm Dr. Moss's discovery, it will add greatly to our means of differentiation of fevers, and may lead to important therapeutic results.—*Medical Herald.*

A New Battery.—MR. REYNIER has introduced a new battery which is claimed to possess twice the electro-motive force of the ordinary Bunsen couple; a solution of caustic soda is substituted for nitric acid, and the "porous" cell is constructed of parchment paper.

A New Lens.—Dr. Cusco, of Paris, has invented a lens of variable focus, in which the pressure of transparent liquid is made to alter the curvature of the flat faces of a cylindrical cell of brass closed with thin glass discs; the pressure can be regulated by a manometer gauge to any required degree within the limits of working.

Atoms.—Some important discoveries of tin have been made near Thornborough, Queensland; it assayed, it is said, 74 to 76 per cent.

A LACUSTRINE village, rich in flint implements, and other relics of the age of stone, has been discovered near Gerlafingen, on the lake of Neuchatel.

THE electric light has been applied to illuminate a volcano; there are nine lights on Mount Vesuvius.

M. PASTEUR has received the sum of $8,000 from the French Government to enable him to continue his researches on the contagious diseases of animals.

DRS. DE LA RUE and MULLER determine the height at which the aurora borealis has its greatest brilliancy as about 38 miles; at a height of 81 miles the light is pale and faint; and at 124 miles above the surface, no electric discharge can take place to produce the phenomenon.

THE turbine wheel of a foundry at New Edinburgh (Ontario) was lately stopped three times by the enormous number of eels going down the river.

DR. WRIGHT, a pupil of the Philadelphia doctor factory, recently gave a burial certificate in the case of a child, setting forth that it had died of "collary fantum."

BENSON gave this sage advice to his friends: "In house accommodation live above your means, in clothing up to your means, and in food below your means."

PRACTICAL NOTES AND FORMULÆ.

Dyspepsia in Infants.—Dr. Steiner recommends, n his Compendium of the diseases of children, the following formula, which he has often employed with good results in the treatment of dyspepsia in young children. Dyspepsia, the result of overloading the stomach with difficult digestible and badly assimilated foods, is a condition which is frequent in those who are brought up by hand. The treatment of such cases requires careful attention to diet, and where there is an excessive acidity of the stomach, magnesia and bicarbonate of soda may be employed as follows:

Soda bicarb.	0.20—0.50 centigrams.
Aq. destill.	80 grams.
Syrup simpl.	10 "

Sig.: A dessertspoonful every two hours.

In those cases in which there is excessive alkalinity on the other hand, acids in a very dilute form are specially indicated, and of these more especially hydrochloric acid:

Acic hydrochlor, dilute	gtt. x.
Aq. destill.	70 grams.
Syrup simpl.	10 "

Sig.: A teaspoonful every two hours.

With very young children a dose of a centigram of pepsin may be administered before each meal.

The dyspepsia of older children, due to improper diet, can sometimes be quickly cured by an emetic and strict attention to diet. Colic of a dyspeptic character may often be cured by the employment of the following:

Soda bicarb.	0.50—0 80 centigrams.
Aq. fœnicul.	80 grams.
Syrup diacod.	gtt. xv

Sig.: A teaspoonful every two hours.—*Therapeutic Gazette.*

Pruritus Vulvæ.—A writer in New York Medical Record says: I have found the applications of the balsam of Peru useful, of which I use the following:

℞	Pulv. gummi arabic.	ʒ ij.
	Peruvian balsam.	ʒ j.
	Oil of almonds.	ʒ jss.
	Rosewater.	℥ j.

M. S. Apply freely with a camel's-hair brush, eight or ten times a day to the itching part.

This latter prescription, which was first suggested by Hufeland, I have also used for the past nineteen years, with the most happy reselts, for sore nipples, applied every hour for a few days. It has never failed in my hands to cure this troublesome affection. I prefer this prescription to the use of borax and alcohol, the nitrate of silver, the zinc ointment, or the saturated solution of borax, highly recommended by others.

Desiccated Blood.—The following formula for desiccated blood is used in the New York Hospital:

"Desiccated blood as thus prepared is completely and readily soluble in water at all temperatures below 160° F., and contains all the elements of blood except water and fibrin. The loss of the latter does not seem to impair its nutritive value, being but a very small proportion of the nitrogenous constituents of the blood."

A drachm of dried blood is necessary to represent a fluid ounce of blood of ordinary specific gravity.

℞ Sang. bov. exsicc.....ʒ vij.
Aqua.....ℨ iv.
F. sol. et. adde.....
Glycerine.....
Spts. vini gallici, aa.....ℨ j.

Sig.: A tablespoonful every three hours.

Prescriptions in Disturbed Menstruation.—In the Chicago Medical Gazette, Jan. 20, 1880, the following formula is recommended as a valuable remedy for a scanty, irregular menstruation, when associated with and dependent upon anæmia, neuralgia and neurasthenia:

℞ Tincturæ ferri chlor.....ʒ x.
Liquor potassæ arsenitas.....ʒ ij.

M. Sig.: Twelve drops after each meal, through a glass tube, in about one-third glass of water.

From the same source we are informed that the following prescription is specially serviceable in the various nervous manifestations which accompany the menopause:

℞ Sodii bromidi.....ʒ iv.
Tincturæ nucis vomicæ.....ʒ ij.
Elixir. calisayæ.....ℨ ij.
Syrupi pruni virg.....ʒ j.
Elixir, simplicis.....ʒ vi.

M. Sig.: Two drachms, two, three or four times a day, as needed. —*Obstetric Gazette.*

Remedy for Corns.—Mr. Gezow, an apothecary of Russia, recommends the following, in the Pharmaceutische Zeitung, as a "sure" cure for corns, stating that it proves effective within a short time and without causing any pain. Salicylic acid, 30 parts; extract of cannabis indica, 6 parts; collodion, 240 parts. To be applied by means of a camel-hair pencil.—*Med. and Surg. Rep.*

The Turkish Bath in Hay Asthma.—A sufferer from Hay Asthma writes to the daily press of this city, that by taking a Turkish bath daily, from the time the first symptoms appeared, he has for three summers succeeded in almost wholly escaping this most annoying complaint. He, moreover, does not have a relapse when cold weather sets in, and so far from finding the baths debilitating, they prove decidedly tonic.—*Med. and Surg. Rep.*

Formula for Sore Nipples.—Dr. Howell recommends the following in the Canada Medical Record:

℞ Tannin.....ʒ j.
Sub-nit bismuth.....ʒ ij.
Vaseline.....ʒ j.

M. Sig.: To be applied constantly when the child is not nursing.

[The tincture of benzoin is an excellent application for sore nipples. It is harmtess to the child and painless to the mother. When applied it deposits a gummy coating which shields the excoriated surface, and which the child seldom removes in sucking.—ED. REC.] W.

Preservative Fluid.—The preservative fluid of the Grecian government is made up of: Alum, 100 parts; common salt, 25; nitre, 12; potass. carb., 60; arsenic, 10; and water 1,000 parts. Mix, cool and filter. Then add to ten parts of this fluid, by measure, four of glycerine and one of methylic alcohol. Bodies saturated in this will, it is claimed, keep for years their form, color and flexibility. The method is partly by injection and partly by immersion. The smaller objects of natural history collections, as snakes, birds, fruits, butterflies, algæ, etc., are preserved as perfectly as larger bodies. Dr. Wickerscheimer was the inventor of the process, the patent for which has been purchased by the government, and then by it the composition has been made public.—*Mich. Med. News.*

Falling of the Hair.—Mr. James Startin, in the British Medical Journal, suggests the following application in general loss of hair without obvious cause:

℞ Ung. petrolei.....
Ol. ricini, a a.....ʒ ss
Hyd. ox. rub.....gr. v.
Liq. ammon. fort.....f ʒ ss.
Ol. rosmarini.....gtt. v.—M

Only a Slight Gonorrhœa.—Some time since a young lady of Richmond, Va., by some strange fatality stumbled upon the word *gonorrhœa.* She innocently asked the family physician its meaning. He told her that it was the technical name for headache j Being visited by a medical student regularly, who seemed very much in love with her, she, doubtless to show her aptitude at medical technicalities, (when at his next meeting he asked after her health), informed him that she had had a "slight gonorrhœa for the last four or five days!" He never came again, and she wonders why?—*Sou. Clinc.*

Iodoform in Syphilictic Neuralgia.—M. Mauriac speaks of a method usually employed with success by Prof. Zeiszl, of Vienna, to combat syphilitic neuralgia. He treats it with pills of iodoform, made according to the following formula:

℞ Pulv. iodoform.....grs. xx.
Ext. et pulv. gentiana.....q. s.

M. ft. pil. No. xx.

Sig.: Two or three pills daily.—*Jour. de Med. et de Chirurgie.*

For Painful Hemorrhoids.—

℞ Ext. belladonna.....2 dr.
Iodoform.....1 dr.
Acetate of lead.....½ dr.
Vaseline.....1 oz.

M.

S. Apply three or four times daily in small quantities.

The above will be found a most excellent application for painful or inflamed piles. The tumors should be bathed in cold water just before each application, and the bowels kept freely open with a gentle purgative.—*Med. Herald.*

Treatment of Gaseous Dyspepsia—In this form of dyspepsia, accompanied by fermentation with the rapid disengagement of large volumes of gas after meals, the most satisfactory remedy is chloroform, in the dose of fifteen to twenty drops in a little syrup. After a few moments the gas is expelled from the stomach and fermentation arrested.

Chinese Varnish.—This is prepared by mixing three parts of freshly-beaten defibrinated blood with four parts of slacked lime and a little alum. The thin-liquid mass may be used at once. Pasteboard coated with it is said to become as hard as wood. Straw baskets may be rendered by it water and oil tight.—*Polyt. Notizbl.*

Hemorrhoids Treated with Capsicum.—In cases of hemorrhoidal congestion, Vidal regards capsicum annum as the best remedy as the best remedy. He prescribes four or five pills daily, each containing 20 centigrams, half at breakfast time and half at supper time. Under this influence the congestion and all the painful symptoms which accompany it disappear rapidly.—*Jour. de Med.*

Treatment of Diphtheria.—M. Crequy, according to La France Medicale, commences his treatment of diphtheria by removing the false membrahe with a forceps; he endeavors by a twisting motion to remove the membrane, without breaking it, in as large a piece as possible; he then with a sponge dabs the denuded mucous surface with a solution of tannin. He never hesitates to adopt this method in all cases.—*Med. and Surg. Rep.*

For the Cure of Tubercular Laryngitis.—Dr. Wm. Pepper gives the following prescription:

℞ Tr. benzoici comp.....fl. ʒ ij.
Glycerine.....fl. ʒ ss.
Aquæ.....fl. ʒ iv.

Sig.: To be used as a gargle.—*Canada Med. Rec.*

Disguising the Taste of Epsom Salts.—According to the Gaz. des Hop, June 12, 1880, the purgatif Yvon consists of sulphate of magnesia twenty grams, water forty grams, and essence of mint two or three drops. The essence of mint completely masks the disagreeable taste of the sulphate, providing that the quantity of the vehicle is inconsiderable.—*Med. and Surg. Rep.*

EDITORIALS AND MISCELLANEOUS.

SPECIAL NOTICE.

Renewals.—All our subscribers who do not notify us to the contrary, on or by the 15th of January next, will be considered as having renewed their subscriptions and will be entered on the list for 1881.

We hope, friends, that you will not only allow us so to enter your names, but that each one will send us at least one new subscriber. If so, will allow you club rates—$1.50 each or $3.00 for yourself and a new subscriber. In this case the cash should accompany the order.

EDITORIAL NOTICES.

Death of Dr. Seguin.—Dr. Edward Seguin died at his residence in New York City, on October 28th, 1880, aged sixty-nine years. Dr. Seguin's specialty was the treatment of Idiocy and all nervous affections, in which he acquired considerable ability.

The Hammond Prize.—A prize of $500 is offered by the American Neurological Association to the author of the best essay on the functions of the Thalamus Opticus in Men. Information regarding the same may be had by addressing Dr. F. T. Miles, of Baltimore, or Dr. J. S. Jewell, of Chicago.

Trommer Extract of Malt Co.—The advertisement of the above reliable establishment may be seen on inside front cover of our Journal.

These Malt combinations are excellent in quality and variety, and are too well established to require special notice at our hand.

The Company is liberal and even charatable in its dealings. We are pleased to make mention of a recent donation of a large lot of these preparations to the Dispensary of The Southern Medical College in Atlanta. These goods are warmly appreciated by the Faculty, and will prove a blessing to the indigent sick who so largely attend the Dispensary.

Withdrawals from College Association.—The following schools are reported as having withdrawn from The College Association: Bellevue Medical College; College of Physicians, New York; Medical Department University of New York; and Rush Medical College.

Our Advertising Department.—This Department of our Journal will meet with special attention the ensuing year. We will endeavor to insert the advertisements of none but first-class establishments, and it will be our aim to promote their interest in every legitimate way. As a rule, those who advertise liberally are live business men and deserve the patronage of the public.

We ask our subscribers to read the advertisements, and to encourage their home Merchants and Druggists to patronize them. An we again remind our readers that the advertisements cost them nothing, as we give the same amount of reading matter each month.

Reed & Carnrick.—We invite special attention to Reed & Carnrick's new advertisement in this Journal. Their preparations are highly approved and in very general use. The variety of their Maltine Compounds are such as to cover all indications, and are very convenient to the practitioner.

The house is reliable and well established, and does not need any special mention. See their advertisement. It will be found full and satisfactory upon all points.

OUR JOURNAL NEXT YEAR.

Evidences of the present and growing popularity of the *Southern Medical Record* are manifest in the renewals of subscription almost daily coming in, and the frequent additions to our list of new names from various sections of the country. The renewals very frequently make favorable mention of our Journal—its practical features and the satisfaction which they derive from perusing its terse and well selected pages. These facts are very satisfactory to the Editors, and will encourage them to renewed and stronger efforts to increase its interest and usefulness to our readers.

ARREARAGES—HOW TO "FEEL BETTER."

Notices will be found in the present issue, to those in arrears, requesting payment. Friends, the time is favorable for settling up. To those who have promptly and kindly responded to our appeal made in the last number, we return our thanks, and respectfully request all others to respond at once, that we may be able to close up the business of the year, and to meet the increased demands which culminate so heavily upon the Journalist at this season. Friends, don't put off the matter, but act at once, and when it is done you will feel better; the printers will feel better, the editors will feel better, the Journal will read better, your patients will get better, and you, as a Doctor, will be better.

We are pleased here, to give place to a somewhat amusing extract sent us by a medical friend, who was kind enough to call on another subscriber (his neighbor), and collect his subscription which he remitted with his own. Dr. Land, the party called on, made allusion to the dun in the last issue, and our facetious correspondent, who is also something of a poet, sends us in rhyme the substance of what he said, as follows:

"Said Doctor Land, that Journal Man
Has sent a dunning letter;
I will not fret but pay the debt,
And then I'll feel much better.

For well I know the book is low,
For twelve long months of pleasure;
'Tis filled with lots of useful dots—
Indeed it is a taeasure."

A friend in need it is in deed—
It always makes me wiser;
And none will fail the cash to mail,
But a Skinflint or a Miser

BOOK NOTICES.

DISEASES OF THE PHARYNX, LARYNX AND TRACHEA. By Morrell Mackenzie, London, Senior Physician to the Hospital for Diseases of the Throat, at the London Hospital Medical College, and Corresponding Member of the Imperial Royal Society of Physicians of Vienna. New York: William Wood & Co., 27 Great Jones street.

A valuable illustrated work, of 418 octavo pages. The author states

that "The work is based partly on the course of lectures which I have annually delivered at the London Hospital Medical College during the last twelve years, and partly on my essay on 'Diseases of the Larynx,' to which the Jacksonian Prize was awarded by the Royal College of Surgeons of England. Some of my lectures have appeared in the Journals, but by far the larger portion of the matter contained in these pages is now published for the first time"

His views on the treatment of syphilis he sumarizes as follows: (1) "That specific anti-syphilitic treatment is only required when serious constitutional symptoms are present; (2) that specific treatment in the early stages does not ward off the later manifestations of the affection; (3) that local treatment, analeptic remedies, and hygienic measures are of the utmost importance; (4) that the disease itself, except under unfavorable circumstances, tends toward spontaneous cure; and (5) that the development of serious pathological changes depends on conditions inherent in the patient himself.

It will, I hope, be understood that whilst employing iodide of potassium more frequently, I nevertheless consider mercury a valuable, and in some cases, an indispensible remedy."

ANNUAL REPORT OF THE SURGEON GENERAL, UNITED STATES ARMY, 1880.

Surgeon General Barnes' Report for the fiscal year ending June the 30th, 1880, is a document of interest, evincing the characteristic ability and energy of this officer.

To the seven thousand eight hundred and twenty-eight (7,828) cases of injuries and operations reported in the Army of the United States, from the date of the publication of Circular 3, in 1871, to the close of the fiscal year ending June 30, 1879, have been added during the past year, one thousand and thirty-four (1,034) cases, making a total of eight thousand eight hundred and sixty-two (8,862) cases, viz: two thousand four hundred and ninety-nine (2,499) injuries of the head, one hundred and forty-one (141) of the face, sixty-five (65) of the neck, six hundred and sixteen)616) of the trunk, one thousand five hundred and seventy-six (1,576) of the upper extremities, one thousand and fifty (1,050) of the lower extremities; two thousand and fourteen (2,014) simple fractures, luxations and sprains, and nine hundred and one (901) injuries of a miscellaneous nature.

Surgical Statistics of the War.—Through correspondence with medical officers of the civil war, from reports of pension examiners, and from surgical journals and publications, additional data were obtained in three thousand eight hundred and eight (3,808) cases of injuries. Searches among the records of the Pension Office and of the Record and Pension Division of this Office gave further information in one thousand seven hundred and twenty-seven (1,727) and two thousand and eightytone (2,081) cases respectively.

A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS DESIGNED AS A MANUAL FOR PRACTITIONERS AND STUDENTS.

By Ambrose L. Ranney, A. M., M. D., Adjunct Professor of Anatomy and late Lecturer on the Surgical Diseases of the Genito-urinary Organs, and on Minor Surgery in the Medical Department of the University of New York; late Surgeon to the Northwestern and Northern Dispensaries, Resident Fellow of the New York Academy of Medicine, Member of the Medical Society of the County of New York, etc. Second edition—enlarged and revised. New York: William Wood & Co., 27 Great Jones street. W. B. Dalston, Agent, Atlanta, Georgia.

The work contains 471 large octavo pages, in cloth, beautifully printed in large, plain type. The second edition following so soon after the first, gives evidence of the demand for the work and its usefulness to the pro-

fession. The remarks in the Preface that he has followed the suggestions which have from time to time been made to him by instructors throughout the country, and endeavored to make the volumes especially valuable and attractive to the student in Medicine, as well as to those more advanced in the knowledge of the profession. The present volume is more full and complete than the first, and is in all respects a most practical and valuable work.

DANGERS AND TREATMENT OF EAR DISEASES. By Albert H. Buck, M. D., Aural Surgeon to the New York Eye and Ear Infirmary; Instructor in Otology, in the College of Physicians and Surgeons, in the City of New York. New York: William Wood & Co., 27 Great Jones street, 1880.

The above is an illustrated work of 400 octavo pages, in which the diseases of the Ear are presented in a text book form, and drawn from private and hospital practice; the treatment suggested having been found by experience to be safe and efficient. The work is full and practical, and constitutes a valuable addition to our works in this department.

COPY OF LINDSAY & BLAKISTON'S VISITING LIST FOR 1881. Thirteenth year of its publication. Always welcomed by the profession; Containing Almanac, Table of Signs, Poisons and Antidotes; The Metric System, and other information valuable to the Practitioner, at prices varying from $1.00 to $3.00, according to size, etc Philadelphia: Lindsay & Blakiston.

RECEIPTED.

[Receipts not acknowledged privately are entered here.]

1880—Drs. A. B. Loving, J. R. Wilson, A. J. Ellis, W. B. Thomason, J. J. Grace, J A. Agnew, W. W. Leak, J. A. Gordon, T. N. Skeen, W. Culbertson, Jno. Elsner, C. Bethune, A. A. Stanley. 1881—J. E. Fripp, G. L. Landes, J. R. Moon, J. A. Holloway, C. C. Hammond, A. P. Harris, J. H. Reynolds, T. S. Fox, Jno. T. Lee, J. H. Wysong, J. S. Carothers.

SPECIAL NOTICES.

We have received from Messrs. WM. R. WARNER & Co. samples of their pharmaceutical preparations for the use of physicians and practitioners. These preparations have received high awards at the centennial and other international exhibitions, and have attained a considerable reputation in America.

Warner & Co.'s sugar-coated pills are extremely well made; have a smooth, elastic coating; and, if cut through, the mass within is found to be soft and easily soluble. They include phosphorus pills, containing 1-50 of a grain of phosphorus in each; have been especially praised by the judges on account of the completeness with which the phosphorus is diffused and subdivided whilst it is protected from oxidation.

COCA (*Erythroxylon Coca*).—The properties of this drug have long been familiar to the natives of Bolivia and Peru, to which countries it is indigenous. It is a powerful nervous stimulant, and increases the power of the muscular system to sustain fatigue. It has also a pleasant, general, excitant influence, removing fatigue and languor. Its effect on the brain is to stimulate that organ to greater activity, and to relieve the mind of the depression incident to worry and anxiety.

Considerable interest has been excited in this new remedy by the report of Prof. E. R. Palmer, M.D., of the University of Louisville, on its efficacy in the treatment of opium habit.

A pure article of coca is furnished by **PARKE, DVIS & CO.**, Detroit, Mich.

We would call attention to the advertisement, on page 9, of **Messrs. HENRY THAYER & CO.**

This is an old and honorable house, having been established in their branch of Pharmaceutical Chemistry over thirty years.

All of their preparations are faithfully made of full strength, elegant in appearance, and have deservedly won a wide reputation. Physicians and druggists may depend upon the correctness and accuracy of any preparation bearng their label.

Their list of new Fluid Extracts is extensive, and the genuineness of indigeousn raw material is certified at the Botanical Gardens of Harvard University.

1493

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PURE EXTRACT OF MALT AND HOPS.

This elegant preparation is submitted to the medical profession as representing a result heretofore unattained in the manufacture of Malt Extracts, being a highly concentrated *Fluid* Extract of proper consistency for mixing promptly with water or milk, yet free from alcohol and not liable to ferment. We claim that it is richer in diastase and in the specific nutriments of Malt and Hops than any Extract in the market. Whenever used by physicians it has been pronounced a superior article and its effects most satisfactory.

To mothers nursing, with a deficiency of milk, it is of the greatest service, and as a vehicle for any preparation of Iron or Quinia it is unsurpassed.

Retail Price, 50 Cents.

NIEMEYER'S EMULSION,

EXTRACT OF MALT AND COD LIVER OIL.

This preparation contains fifty per cent. of best Cod Liver Oil and the soluble Hypophosphites of Lime, Soda and Potash,—THREE grains of the combined salts to the tablespoonful. We have evidences from the experience of physicians and others that it is one of the most easily assimilable and palatable forms of Cod Liver Oil yet introduced to the medical profession. It is a perfect Emulsion, mixing readily with water if desirable and is well fitted for administering to children and persons whose stomachs are too sensitive to retain the simple oil. **Retail Price, $1.00.**

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Three grains to the tablespoonful in perfect solution. **Retail Price, 75 Cents.**

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This combination consists of two parts Extract of Malt and Hops, one part pure imported Sherry Wine and four grains to the tablespoonful of Ammonia Citrate of Iron in solution. **Retail Price, 75 Cents.**

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Extract of Malt and four grains to the tablespoonful of the soluble CITRATE OF IRON AND QUINIA. **Retail Price,75 Cents.**

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COMPARATIVE VALUE
OF
MALTINE AS A CONSTRUCTIVE.

It has been clearly shown by the most distinguished chemists in this country and Europe, who have made comparative analyses of ***MALTINE*** and Extracts of Malt that quantitatively, ***MALTINE*** contains from two to three times the nutritive and digestive properties that are found in the best Extracts of Malt in the market.

This fact has been amply demonstrated by the concurrent opinion of the most eminent medical authority in the world; and the practical experience of nearly the entire Medical Profession of the United States and Great Britain proves beyond question that **Maltine**, as a Constructive, is by far the most valuable product yet presented for the consideration of scientific medical men.

Being supplied at the same prices as the ordinary Extract of Malt, and *containing fully double the quantity of Diastase and nutritive elements to be found in the best of them*, it can be prescribed at less than one half the expense.

Extracts showing the value of MALTINE *in comparison with* Extract of Malt, *and as a Constructive:*

In order to test the comparative merits of MALTINE and the various Extracts of Malt in the market, I purchased from different druggists, samples of MALTINE and of the most frequently prescribed Extracts of Malt, and have subjected them to chemical analysis.

As the result of these examinations, I find that MALTINE contains from half as much again to three times the quantity of Phosphates, and from three to fourteen times as much Diastase and other Albuminoids as any of the Extracts of Malt examined.

Prof. WALTER S. HAINES, M.D.
Prof. of Chemistry and Toxicology, Rush Medical College, Chicago.

In comparison with the alcoholic Malt Extracts, your MALTINE is about ten times as valuable, as a flesh former; from five to ten times as valuable, as a heat producer; and at least five times as valuable, as a starch digesting agent.

Prof. ATTFIELD, F.C.S.,
Prof. of Practical Chemistry to the Pharmaceutical Society of Great Britain.

MALTINE is superior in therapeutic and nutritive value to any Extract of Malt made from Barley alone, or to any preparation of one variety of grain.

Prof. R. OGDEN DOREMUS

In its superiority to the Extract of Malt prepared from barley alone, I consider it to be all that is claimed for it, and prize it as a very valuable addition to the list of tonic and nutritive agents.

C. H. LEWIS, M.D., *Jackson, Mich.*

The following is an extract from a Report of WM. PORTER, A.M., M.D., *St. Louis, Mo.*

After a full trial of the different Oils and Extracts of Malt preparations, in both hospital and private practice, I find MALTINE most applicable to the largest number of patients, and superior to any remedy of its class.

Prof. L. P. YANDELL, in *Louisville Medical News*, says:

MALTINE deserves to stand in the front rank of the constructives; and the constructives, by their preventive, corrective and curative power, are probably the most widely-useful therapeutical agents that we possess.

Ann Arbor, Mich., July 2d, 1880.

GENTLEMEN;—
The preparations of MALTINE I have already used have impressed me as being not only superior to Barley Malt as a nutrient tonic, but as furnishing an admirable vehicle for the combination of other tonics. The preparations with Cod Liver Oil, with Pepsin and Pancreatine, and with Phosphates, as well as the Malto-Yerbine, I have especially liked. I have used no "Barley Malt" since I have been able to obtain the MALTINE.

W. F. BREAKEY, M.D.,
Professor University of Michigan

Ann Arbor, Mich., September 25th, 1880.

An increasing experience in the use of MALTINE confirms my former opinion as to its great therapeutic value, and I should hardly know how to get along without it.

E. S. DEMSTER, M.D.,
Prof. Obstet. and Dis. Women and Children, University of Michigan, and in Dartmouth College.

In corresponding with Advertisers please mention THE RECORD.

During the Past Year

We placed Maltine and several of its compounds in the hands of one hundred leading Physicians of the United States, Europe, Australia and India, with a request that they thoroughly test it in comparison with other remedies which are generally used as constructives in Pulmonary Phthisis and other wasting diseases.

From the tone of the seventy reports already received, fifteen of which are upon comparative tests with the principal Extracts of Malt in the market, we are fully justified in making the following claims, viz:

FIRST—That Maltine (Plain) increases weight and strength far more rapidly than Cod Liver Oil or other nutritive agents.

SECOND—That Maltine, Maltine with Peptones, and Maltine with Pepsin and Pancreatine rapidly correct imperfect digestion and mal-nutrition in wasting diseases.

THIRD—That Maltine is the most important constructive agent now known to the Medical Profession in Pulmonary Phthisis.

FOURTH—That Maltine causes an increase in weight and strength one and a half to three times greater than any of the Extracts of Malt.'*

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MALTINE—Plain.
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MALTINE with Cod Liver Oil.
MALTINE with Cod Liver Oil and Iodide of Iron.
MALTINE with Cod Liver Oil and Pancreatine.
MALTINE with Cod Liver Oil and Phosphates.
MALTINE with Cod Liver Oil and Phosphorus.
MALTINE with Hypophosphites.
MALTINE with Iodides.
MALTINE with Peptones.
MALTINE with Pepsin and Pancreatine
MALTINE with Phosphates.
MALTINE with Phosphates Iron and Quinia.
MALTINE with Phosphates Iron, Quinia and Strychnia.
MALTINE Ferrated.
MALTINE WINE
MALTINE WINE with Pepsin and Pancreatine.
MALTO-VERBINE.

**MALTINE is a concentrated extract of malted Barley, Wheat and Oats. In its preparation we employ not to exceed 150 deg. Fahr., thereby retaining all the nutritive and digestive agents unimpaired. Extracts of Malt are made from Barley alone, by the German process, which directs that the mash be heated to 212 deg. Fahr., thereby coagulating the Albuminoids and almost wholly destroying the starch digestive principle, Diastase.*

We will send, gratuitously, a $1.00 bottle of any of the above preparations upon payment of the expressage. Address,

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Accommodations in the Hospital for private Patients from a distance, who may desire to place themselves under my treatment.

june 1880—12m

ATLANTA DRUG MARKET.

CORRECTED MONTHLY,

By Pemberton, Pullum & Co., Wholesale Druggists.

These are prices of chemically pure drugs, and not the cheap commercial rates published by certain houses in this city. Cheaper in larger quantity and subject to fluctuations.

—o—

NET PRICES ON NOVEMBER 15, 1880.

Acid acetic	℔lb	20	Magnesia, carb	℔lb	45	Vial corks	per gross 20
Acid benzoic	℥oz	30	Magnesia, sulphate	℔lb	10	Pocket drug cases	$2 00 to $5 00
Acid carbolic, cryst	℥oz	15	Mercury, calomel	℔lb	85	Pocket cases	$10 00 to 20 00
Acid citric	℔lb	1 25	Mercury, blue pill	℔lb	75	Sims' speculum	4 00
Acid gallic	℥oz	25	Mercury, protiodide	℥oz	40	Plain cylinder	75 c. to 1 00
Acid muriatic, C. P	℔lb	35	Morphia sulphate	℥dr	75	Sim's uterine probe	1 50
Acid nitric, C. P	℔lb	35	Morphia acetat	℥dr	75	Uterine sound	2 00
Acid sulphuric, C. P	℔lb	35	Oil, castor	℥gal	1 50	Uterine forceps, dressing	2 50
Acid tannic	℥oz	25	Oil, cod liver	℥doz	6 50	Thomas' uterine applicator	1 50
Acid tartaric	℥oz	10	Oil, kerosene	℥gal	20	Lent's uterine caust. holder	1 30
Alcohol	℥gal	2 50	Oil, olive	℥gal	1 25	Barnes' uterine dilator....set	4 00
Alum	℔lb	5	Oil, peppermint	℥oz	35	Uterine catheter, double	3 50
Ammonia, aqua	℔lb	15	Ointment, citrine	℔lb	60	Uterine tenaculum, double	3 00
Ammonia, carbonate	℔lb	35	Ointment, mercurial	℔lb	75	Needle, hollow, for wire sut	2 00
Ammonia, muriate	℔lb	40	Opium	℔lb	8 00	Sigmoid catheter, hard rub	1 00
Antimony, tartarized	℥oz	10	Pepper, black	℔lb	20	Sigmoid catheter, silver	1 50
Arsenic, Donovan's sol	℔lb	50	Pepper, powd. capsicum	℔lb	50	Silver wire.....coil	1 00
Arsenic, Fowler's sol	℔lb	35	Piperin	℥oz	1 25	Uterine tents, sponge.....doz	3 00
Assafœtida	℔lb	45	Plaster, adhesive	℥yd	25	Hodge's pessaries.....each	75
Balsam copaiba	℔lb	75	Plaster, isinglass	℥yd	60	Meigs' ring pessaries.....each	60
Berries, cupeb, powd	℔	40	Podophyllin	℥oz	50	Rubber urinal, male...$1 50 to	2 00
Bismuth. sub nit	℔lb	2 75	Potassium. chlorate	℔lb	40	Rubber urinal, female$1 50 to	2 00
Borax, refined	℔lb	15	Potassium, nitrate	℔lb	25	Dissecting cases.....$3 25 to	5 25
Camphor gum	℔lb	50	Potassium, bromide	℔lb	60	Obstetrical forceps, Meig's	7 00
Cerium oxalate	℥oz	50	Potassium, iodide	℔lb	4 50	Obstetrical forceps, Hodge's	7 00
Chalk, prepared	℔lb	15	Powder, Dover's	℔lb	2 00	Obstetrical forceps, Bedford's	8 50
Charcoal, powdered	℔bot	25	Quinia, sulphate	℥oz	3 50	Placenta forceps	2 50
Chinoidine	℥oz	20	Root, ginger, ground	℔lb	25	Speculum ani, glass.....75 c. to	1 25
Chloral hydrate, Germ	℥oz	20	Root, ginger, jam	℔lb	35	Speculum ani, G. silver	5 00
Chloroform	℔lb	1 50	Root, ipecac, powd	℔lb	1 75	Rectal bougies, 12 siz..., each	1 25
Cinchonia, Sulphate	℥oz	50	Root, rhubarb, powd	℔lb	1 25	Ecraseur, wire	6 00
Cincho Quinine	℥oz	2 00	Root, seneka	℔lb	80	Ecraseur, Nott's rectilinea	13 00
Collodion, cantharidal	℥oz	40	Root, serpentaria	℔lb	60	Ecraseur, chain..... $15 00 to	20 00
Creosote	℥oz	10	Root, squill	℔lb	25	Gum lancet	75
Elixir iron, phosphites	℔lb	1 50	Santonin	℥oz	1 25	Thumb lancet, Evans'	1 00
Elixir iron, hydropho &c	℔lb	1 25	Sach. Pepsin	℥oz	60	Tooth forceps.....$1 25 to	2 50
Ergot, powdered	℥oz	20	Seed, mustard, ground	℔lb	40	Trochar and canula	1 50
Ergot, fluid ext	℔lb	3 00	Silver, nitrate, pure	℥oz	1 00	Tongue depressor	1 00
Ether, sulphuric	℔lb	1 00	Soap, castile, true	℔lb	15	Catheters and bougies, E. doz	2 75
Ext. belladonna, solid	℔lb	3 50	Soda, bicarbonate	℔lb	6	Catheters, silver, combined	3 00
Ext. colocynth, comp	℔lb	5 00	Soda, hyposulp	℔lb	15	Catheters, soft rubber ea. 30 to	40
Ext. hyoscyamus	℥oz	50	Spirits nitre	℔lb	50	Bougies G. E., best Fr. ea. 60 to	80
Extract jalap	℥oz	75	Spirits turpentine	℥gal	50	Bougies, plain elastic.....30 to	50
Extract liquorice	℔lb	50	Strychnia	℥dr	35	Port caustic, hard rubber...60 to	80
Extract nux vomica	℥oz	35	Sulphur, flowers	℔lb	5	Port caustic, Lallemand's	4 00
Glycerine	℔lb	25	Tartar, cream	℔lb	40	Probangs, sponge	40
Gum aloes, soc. powd	℔lb	65	Tinct. gent. comp	℔lb	65	Scissors, surgeon's straight	75
Gum arabic, powd	℔lb	50	Tinct. wild yam	℔lb	75	Scissors, surgeon's curved	1 00
Gum guaiac	℔lb	50	Tinct. gelseminum	℔lb	75	Syringe, metallic.....doz	2 50
Gum myrrh	℔lb	65	Tinct. viburnum prunif	℔lb	75	Syringe, gutta perch. ea. 50 to	1 50
Gum opium, Turkey	℔lb	6 00	Tinct. iron, mur	℔lb	50	Syringe, male, glass.....doz	1 00
Iodine, resublimed	℥oz	50	Tinct. opium	℔lb	1 25	Syringe, female, glass.....doz	1 25
Iodoform	℥oz	1 25	Tinct. opium. camph	℔lb	60	Syringe, Mattson's plain, ea	1 00
Iron, dialyzed	℥oz	75	Tinct. opium, deodorized	℔lb	2 50	Syringe, hypodermic...1 50 to	4 50
Iron, precip. carb	℔lb	25	Tinct. veratrum vir	℔lb	1 25	Ear trumpets	5 00
Iron, by-hydrogen	℥oz	15	Tinct. aconite, radix	℔lb	75	Perfume atomizer, best	1 20
Lead, acetate	℔lb	35	Wine colchicum seed	℔lb	75	New elastic tourniquet, for bloodless amputations	3 00
Lactopeptine	℥oz	85	Zinc, acetate	℥oz	15		
Leptandrine	℥oz	50	Zinc, sulphate	℔lb	20	Elastic tubing, per foot	10 to 20
Lithia carbonate	℥oz	75	Pill boxes, paper	℔pk			
Magnesia, calc	℔lb	1 10	Vials, assorted	per gross 2 75			

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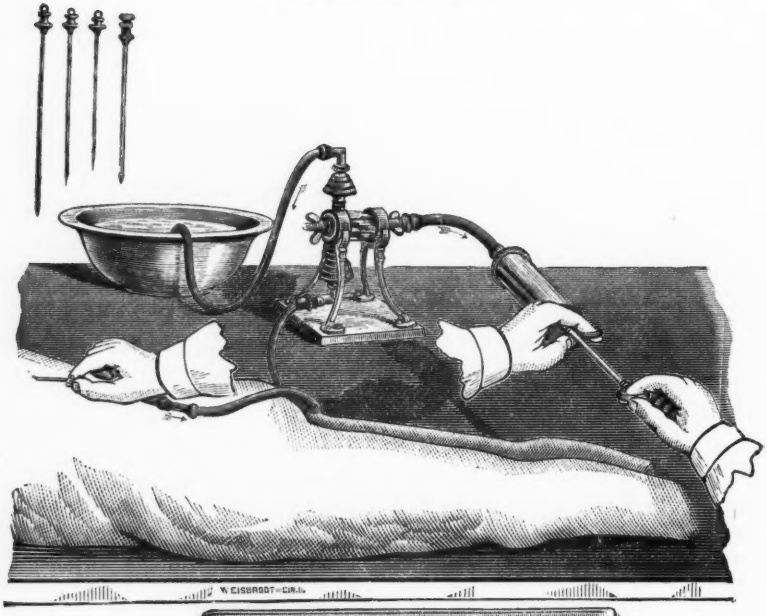

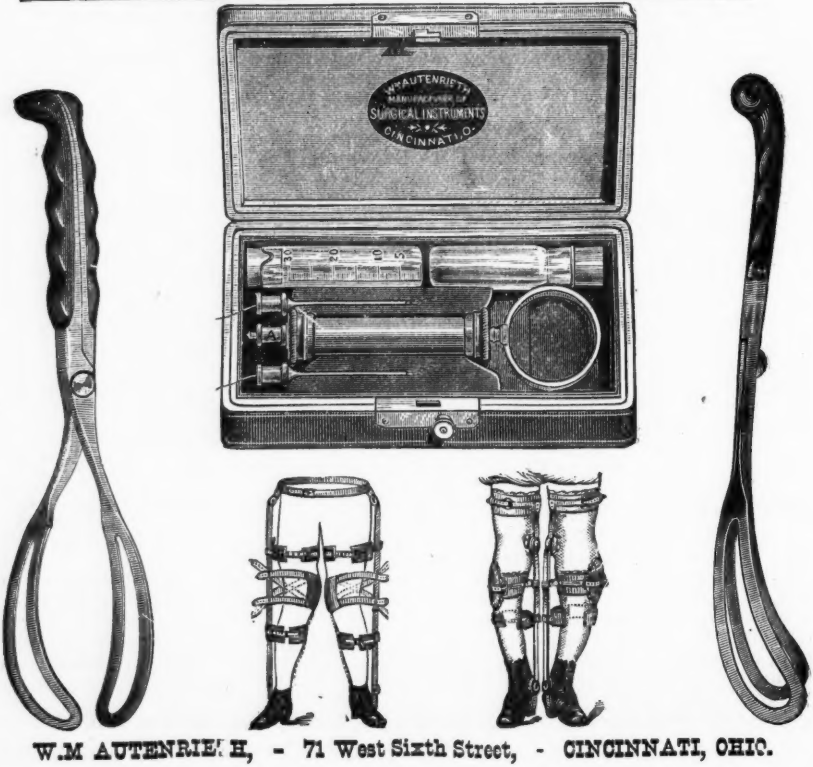

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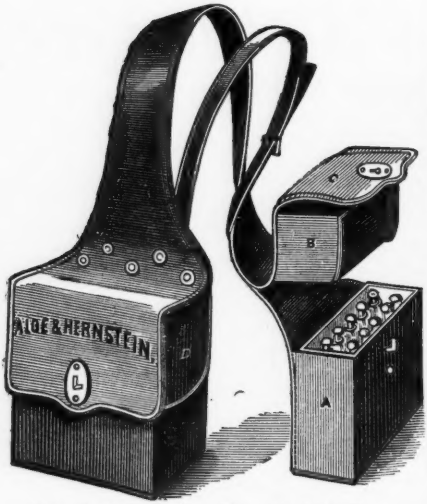

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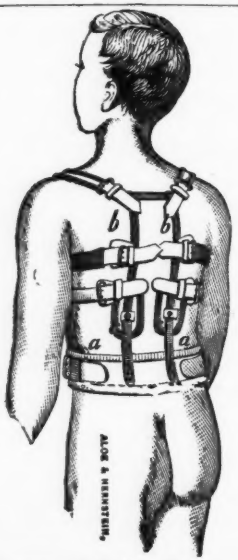

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R. C. WORD, M. D.,
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GEO. G. CRAWFORD, M. D.,
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W. T. GOLDSMITH, M. D.,
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Professor of Materia Medica and Lecturer on Medical Jurisprudence.

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JAMES A. GRAY, M. D.,
Demonstrator of Anatomy.

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Lecturer on Genito-Urinary Organs and Venerial Diseases.

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